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PERIODIC HEALTH EXAMINATIONS IN THE PREVENTION AND EARLIER RECOGNITION OF CANCER AND OTHER SERIOUS DISEASES.*

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It seems strange that the profession of medicine is really so late in either practicing or preaching the fundamental importance of periodic examinations. Apparently at the present time both the public and the profession are in a receptive mood, and now, therefore, is the time for those who have the correct information to join together and endeavor to bring helpful information to both the professional and the lay mind. As I have been interested and participant in the educational effort in regard to cancer, and as my records for more than a quarter of a century are filled with very suggestive facts, I will attempt briefly to review the more fundamental evidence with the hope that it will aid in increasing the number of these examinations among not only the people, but among the doctors themselves. I will consider the subjects in the following order: breast, uterus, abdomen, oral cavity, skin and bone.

The Breasts. When Doctor Halsted made his first complete report on his then considered very radical operation for cancer of the breast in 1895, every patient of whom we had a record in the clinic was written to and those not personally examined by Doctor Halsted or myself were examined by their physicians in their home cities. In 1898 one of these patients returned for her annual examination and I found the beginning of retraction of the nipple not present at the past examination and of which the patient was unaware. In addition there was a slight thickening in the left remaining breast beneath this retracted nipple. The complete operation was done the next day. The microscope found a very early cancer in the center of the breast, not larger than a pea. The cancer cells were not found anywhere else in the breast and not in the glands in the axilla. The patient had been operated on by Dr. Halsted one year previously for a tumor in the breast known to have been present at least six months, and after the complete operation cancer cells were present in all the axillary glands. The striking fact is that this patient is living today. We know that her chances of a cure after the first operation in 1897 were from ten to fifteen per cent, because the high glands were involved, and after the second operation in 1898 if there had been no other operation, seventy per cent, because the glands were not involved. We also know that this is the first patient to be permanently cured after the complete operation for cancer of both breasts.

Women are warned of trouble in the breast chiefly by feeling a lump, now and then by observing some irritation about, or bleeding from, or retraction of, the nipple. We have positive evidence that if patients report for an examination at

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once, and if a definite lump is found, and when this lump is explored and cancer is revealed, and the complete operation follows at once, the chances of a permanent cure are seventy per cent and more. We will not know how much more until a larger number of women report for an examination within two weeks after the first symptom.

We also know, from insurance statistics, that every woman over thirty runs the risk of cancer of one breast in from one to two per cent. This increases slightly as she grows older, reaching its height perhaps between forty and fifty. When a woman has had the complete operation for cancer of the breast, no matter how early or how favorable her condition, she runs perhaps ten per cent chances of cancer of the remaining breast. If the women are operated on in a clinic or by surgeons who urge repeatedly periodic examinations, every three months the first year and twice a year for five years, and then once a year for the remainder of their lives, this woman who has been operated upon for trouble in one breast, although she runs a greater probability now of the same trouble in the other breast, nevertheless if she obeys the recommendation of these periodic examinations, her chances of a permanent cure should cancer start in the remaining breast, are far better than after the first operation. The figures in our clinic show this.

Now that we have educated women to seek an examination the moment they are warned by lump, irritation of the nipple, bleeding, or retraction of the nipple, I find that in my own clinic since 1920, in seventy-five per cent of the cases, the trouble in the breast is not malignant, while previous to 1900 only twenty per cent were non-malignant. Therefore, in the practice of any surgeon, or any clinic, in which the follow-up system is working, every woman first observed in that clinic who follows the advice will be protected from future breast trouble by the periodic examination. In twenty-five per cent the patient will have been operated upon for cancer, in twenty-five per cent a benign tumor will have been removed from the breast, and in fifty per cent no operation will have been done. Therefore, in protecting twenty women who have recognized their cancer early, this modern clinic will be given an opportunity at least to try to influence seventy-five per cent more women whose breasts have not been the seat of cancer. I am confident that the periodic examinations established by Halsted in his clinic in 1895 for breast cases is largely responsible for the splendid results which have been improving every year in this clinic and among the patients of surgeons influenced and trained by Halsted. Our British colleagues give the Johns Hopkins Hospital Surgical Clinic the credit for the best record and the best results of any clinic in the world, and there are two factors here: the complete operation as devised and practiced by Halsted, and the yearly periodic examinations. Letters have gone out to these patients and their physicians since 1895, even during the war it was one of the activities of the surgical pathological laboratory of the Johns Hopkins Hospital which continued to function.

It is a fortunate thing, therefore, for a woman to have a pain in the breast or a discharge from the nipple, or to feel the indefinite lump in a lumpy breast, or a "shotty" breast, or the equally innocent worm-like tumors beneath the nipple, because she will seek an examination and be given the pleasant news that there is nothing serious in what she had felt or seen. But this woman will now be given the protection of a periodic examination and the educational conversations that go along with it. Ultimately, every clinic will have its instructive facts in printed form.

Now, as we will discuss next, every woman who has borne children, if she desires protection from cancer of the breast, should submit after the birth of her children, at regular intervals, to an examination which had been essential and made during her expectant period and directly

after the birth of her children. These women, therefore, when they come for this periodic examination, should insist upon a survey of the breasts.

There is one other fundamental conclusion of which I am positive and for which I have the evidence—that is, in those clinics in which the per cent of malignancy is less than fifty and approaching twenty-five per cent, the physicians and surgeons are becoming far better diagnosticians. Their ability, by touch of the fingers, to distinguish between the definite and the indefinite lump, is rapidly improving. Women who go to such a clinic have a better chance for a correct diagnosis and proper treatment, and when, in addition, this clinic really endeavors to carry on with its patients periodic examinations by their family physicians, those women have an increased protection against cancer of the breast and uterus.

Cancer of the Uterus. My studies show that if you compare the results of treatment of the early stages of cancer of the breast with those of cancer of the uterus, the per cent of five-year cures in the breast group is larger. That is, if women correctly informed, seek an immediate examination after the first warning of trouble in the breast or in the pelvic organs and cancer is found, the woman suffering with cancer of the breast has a better chance of a permanent cure. There is no question as to the figures, and I doubt whether there is much difference of opinion as to the explanation. The warning of cancer of the breast is a lump, that of cancer of the cervix of the uterus something unusual in the monthly discharge, or its reappearance after the menopause and—very important to remember—whether it is bloody or not. We all know that cancer does not begin as cancer. There is always something else first that is not cancer. Then if we can get patients to come to examination before the condition is cancer, we can offer a positive prevention. This seems possible in cancer of the skin and mouth, but in the breast and in the cervix of the uterus, the lump may not be felt in the breast, or the change in the discharge be evidence, until cancer has started in the local condition which preceded it, and in cancer of the cervix the distance between the point of origin and the point to which, if the cells migrate, there is no hope of a cure from operation, is so much shorter than in cancer of the breast, that the chief hope of further reduction of incurable cancer of the cervix rests upon periodic examinations.

The results of education do not proceed by leaps and bounds—they often move like the tides—forth and back. The medical profession can make recommendations, but our best results are obtained when we are able to get the people to make the thing we recommend acquired habits. It is true, the best results will be obtained when the education begins with the children but we shall always have the adults to educate, because, as modern science and medicine move there will always be much that is new which the grown-ups could not have gotten when they were children. It is not only wrong, but illogical to conclude that adults are a hopeless proposition in regard to teaching them at this late stage habits of prevention, better health and periodic examinations.

Let us take the case of the expectant mother. A tremendous change has taken place. In twenty-five years obstetrics has become one of the great specialties. We now know that if an expectant mother is under the care of a properly trained obstetrician and is periodically examined and advised as to diet and hygiene of life, she is really safer from the dangers of bodily ills than any unpregnant woman. This country may not have made the world safe for democracy, but the great obstetricians with other scientists in medicine have made this country safe for the expectant mother.

And this safety is based upon periodic examinations.

Now, cancer of the cervix attacks women who have given birth to children, and the origin of that cancer is an injury

or a wound of the cervix due to the trauma of the birth of a child. That wound, like any other wound, will heal properly if treated properly. Therefore, when women are under the care of properly trained physicians, the injuries of child-birth will be repaired. But this is not enough. Women who have borne one or more children and whose injuries of childbirth have been repaired as far as it is possible to do, still run the risk of cancer and in a certain per cent of cases the condition which precedes that cancer gives no definite symptoms. Almost simultaneously with the first discharge the conditions of the cancer may have extended beyond both surgery and radium.

There is absolutely no doubt that when women are protected by the repair of the injuries of childbirth they run less risk of cancer, and when, in addition they report at once after the first warnings of an unusual discharge or its reappearace after the menopause, nevertheless their protection becomes greater if they submit to periodic examinations.

I feel quite confident that ultimately the women of this country will be better insurance risks than the men. Their maternal instincts makes them more sensitive to the protection of their children and of themelves for the benefit of their children. Women today are reacting to the correct information given them by the medical profession better than the men. The per cent of hopeless cancer of the uterus and of the breast is rapidly declining, while the per cent of permanent cures is equally rapidly rising, and more women who have had trouble with the breast or uterus are coming under the protection of periodic health examinations. More women attend the lectures and more read the literature. So far the benefits of periodic examinations are best illustrated when we study the records of any great clinic of this country, and read what has happened to those groups of people whose diseases have so interested some member of the clinic that the patients have been written to once a year and advised to see their physician or to report to the clinic. Periodic examinations are the logical result of a follow-up system and a follow-up system was one of the great beneficial results of the introduction of science into medicine. It was only the scientific members of great medical faculties that became interested in what happened to their patients after they left the clinic or the hospital. I feel confident that the best answer to the statement which for years has been frequently made, that scientific medicine was not practical, is that scientific medicine developed the follow-up system and is now behind periodic examinations.

Cancer Within the Abdomen. We have educated the people on the danger of appendicitis if an operation is delayed. When I came to Johns Hopkins in 1893, the majority of cases of appendicitis who entered the hospital were in the stage of peritonitis rarely cured by operation. Today it is as rare to see peritonitis from delayed appendicitis as it was to cure peritonitis in those former days when the public was unenlightened. In 1897 at Johns Hopkins, a relative of mine entered the hospital after an attack of appendicitis, and after careful consideration it was decided that it was safer to wait for another acute attack before taking the risk of an operation. Today most of us have acquired the habit for the operation of appendicitis as we have for the removal of the tonsils and the filling of a cavity in a tooth. When anyone dies with appendicitis today someone has blundered. Now the remarkable thing is, that when one is taken with an attack of appendicitis the decision as to an operation should be made within twenty-four hours, at the longest forty-eight hours, best within twelve hours, and the marvelous thing is that we have educated most people to send for their family doctor at once, and he is educated to recognize at once, and the patient wants to go to the hospital at once, and the surgeons operate at once no matter how inconvenient it is to

himself or how tired our operating room force.

On the other hand, as yet we have made very little impression on those diseases within the abdomen which are chronic. Most patients suffering from acute diseases within the abdomen, like appendicitis, send for their doctor the moment they are warned, and thus their lives are saved. Cancer within the abdomen is one of the chronic diseases. Its early and first symptoms are not urgent as in appendicitis, and for this reason there is delay. It is interesting to study those first cases of cancer of the stomach and colon which were cured by operation. They were forms of cancer which quickly produced obstruction to the passage of food. For this reason the symptoms were acute, and both patient and family physicians were forced to go to the hospital and seek relief from a condition called obstruction of the bowel. Then, at operation, the early obstructing cancer was found and removed, and most of these patients are living today, some of them more than twenty-five years since the operation. Unfortunately, obstruction with cancer usually comes late, often too late for a permanent cure.

Periodic examinations of adults, from my studies, will have a tremendous influence for good because, at these examinations, indigestion will be discussed, the common cause of indigestion which may have no relation to cancer removed, and these enlightened adults will soon acquire the habit of paying attention to the least symptoms of indigestion, and seek an immediate examination within forty-eight hours, just as the public has already been educated to get medical advice at once when there are acute abdominal symptoms.

We do not seem to be able to repeat the publicity which appendicitis received. Between 1890 to 1900, which is the first decade of modern abdominal surgery, appendicitis and ovariotomy were the chief operations, and appendicitis gave rise to the greatest public interest. It became a very common procedure and, on account of the large operating fees of some prominent surgeons, and the excited discussion among the profession as to the possibility of unnecessary operations, the public were well informed, and there is no doubt that this publicity accomplished good to the greatest number.

Operation for cancer of the stomach and colon have never excited or achieved publicity. If we can get for periodic examinations the publicity that we got for appendicitis there is no doubt of its good effect on increasing the number of cures of cancer within the abdomen.

The public must know that when they are warned by any type of indigestion, there must be an immediate roentgen-ray examination of the stomach and colon. If there are any symptoms pointing to the lower bowel, such as unexplained constipation and diarrhea, with or without blood, there must only be an examination with the roentgen-ray, but an actual inspection of the lower bowel with a search light called the proctoscope.

There are many other reasons which encourage delay and procrastination in people who suffer from indigestion. There is no doubt that in the vast majority of cases of indigestion cancer is not the cause, so only a small per cent suffer when there is delay. In the early stage when cancer can be cured, only a thorough examination will distinguish between the indigestion due to cancer, and the indigestion due to things that are not cancer and may never be cancer.

Even if the indigestion is not due to cancer it is always a good plan to have some curiosity and ask your physician to find out its cause. The most important thing to do first is to make an examination and search for the cause.

The search for the cause of indigestion is one of the most interesting adventures of diagnostic medicine, and one of the most helpful things for any adult, because in

this investigation the patient learns the fundamental truth of preventive medicine, preservation of health, and the earliest recognition of serious diseases.

To repeat, my investigation of a very large group of cancer within the abdomen lead to the conclusion that the quickest solution rests upon periodic examinations.

Today, we have the means of directing trouble within the abdomen, and we have the methods of including surgical operations of relieving these troubles, but in the majority of instances the third factor, the patient in time, is conspicuous by its absence.

Oral Cavity: There is no better proof of the preventative value of periodic examinations than in a study of the causes of cancer within the mouth.

Adults who see their dentists at regular intervals, and have their teeth cleaned and smoothed and who, when they smoke in excess and produce in the mucous membrane in the mouth white patches, called leukoplakia, are warned by their dentists to stop smoking, never die of cancer.

In my studies of all the records of diseases of the oral cavity in the surgical pathological laboratory of the Johns Hopkins Hospital which have accumulated since 1899, the two most striking facts in every case of cancer of the mouth, are first, that patient suffering with cancer had really never had proper dental treatment, many patients had never seen a dentist, practically all had not seen a dentist within a year or more, and, second, tobacco in one form or another including snuff had been used continuously up to the time, and since the beginning of the local sore in the mouth ultimately developed into cancer. In addition, the examination revealed ragged dirty teeth. Another cause is neglect of ill fitting plates.

We have already made tremendous progress in reducing the number of cancer within the mouth by giving the people the correct information in regard to teeth and tobacco. In the records in the Johns Hopkins surgical pathological laboratory up to 1900—the first decade when the people were unenlightened, the per cent of the inoperable cancer was more than fifty per cent; today it is less than five. Before 1900 the per cent of cures was less than ten, today it is more than sixty. In addition, we are preventing cancer of the mouth by this publicity. Up to 1900 in less than three per cent of all the cases was the lesion of the mouth precancerous, that is, the white patch of leukoplakia or the wart, or the fibroma, or the ulcer of the area of irritation, or the hypertrophied papillae, all lesions which precede cancer. Now in more than seventy-five per cent we are seeing these cases in a stage in which cancer could be absolutely prevented. Periodic examinations of the teeth and oral cavity not only prevent cancer but also all the results of neglected infections in the region of the teeth and mouth. The thorough examinations of the oral cavity includes the tonsils, adenoids, nasal cavity and sinuses.

More people have acquired the habit of periodic examinations by their dentist and oculist than for any other type of examination. It is up to the medical profession to work out an organization so that these well informed individuals will reap the benefit of complete examination. Seeing your oculist prevents blindness. Your dentist prevents cancer and focal infection of the teeth. The nose and throat specialist prevents deafness and the results of delay when there are infected tonsils, adenoids or sinuses. More fear blindness and toothache than deafness. If we can educate the people to fear deafness more, the habit of a thorough examination of the nose and throat will be more quickly acquired.

Skin. No one should die of cancer of the skin. Study of cancer here illustrates the value of periodic examinations. But the great fundamental fact on which we base the hope of eradicating cancer, is that cancer never begins as cancer. There is always a local condition (lesion) first that is not cancer. On the skin this local lesion

which is not cancer will be seen and felt long before cancer starts. We are born with skin defects and the obstetrician should make a note of them and tell the mother of the kinds of skin defects that should be removed immediately or later. For example, many little birth marks called naevi should be watched carefully, and if they grow removed at once. There is no danger and no difficulty in removing these little red vascular birth marks (called hemangioma), while on the other hand if the obstetrician fails to tell the parents about them, and the parents are ignorant, these blood-vessel tumors may grow to such a size that their cure is more difficult, in some instances even dangerous, and in most cases when cured leave an unsightly scar. If there are pigmented moles the parents will be told that they should be removed before the age of twenty, and there are other skin defects and palpable tumors at birth that should be found by the obstetrician's thorough examination.

Later in life, at any age, the appearance of a new skin defect of any kind should lead to an immediate examination. When periodic examinations are in vogue these skin defects will always be revealed, and those that have dangerous possibilities properly removed. The most difficult part of the problem apparently is to teach the doctors what kind of skin defect should be removed, and to teach the public and medical profession that these little skin moles, warts and other types of skin defects are best treated by complete removal, which can be done best under local anesthesia with a knife, in some instances with the cautery, and leave practically no scar. We also must teach the surgeons that these little skin defects must be given a good margin of healthy tissue so that enough has been done should the microscope reveal the beginning of cancer.

The study of cancer of the skin teaches us as in cancer of the mouth that irritation is one of the fundamental causes of cancer. It is important to protect the skin from irritation, to keep the skin clean by frequent bathing with soap, and in some instances the addition of toilet water containing alcohol, and when there is a little irritation of the skin we must all learn the value of placing a little vaseline or cold cream on the irritated spot after cleansing. Chapped hands from frost bites when neglected may lead to cancer. Fortunately, for some obscure reason, cancer in corns on the feet is a great rarity, but it is unnecessary to have corns, and it is up to the medical profession in their periodic examinatons to teach how to prevent corns, or to cure them if they are present.

Paget's Disease of the Nipples. Although mentioned in the discussion of the breast it is well to repeat it here because it is a problem in cancer of the skin.

Paget's cancer of the nipples begins in the irritated nipple. Any woman can recognize an irritated nipple at once. They need not wait for the extreme degree of weeping of the nipple, or the red granular nipple, or the formation of a wart or keratosis of the nipple, or an exzema, but the moment they feel an irritation of the nipple by pain itching or smarting or see any signs of irritation, the following treatment should be employed at once. Wash with warm water and soap (any kind of soap), rinse off with toilet water or medicated alcohol, cover the nipple with vaseline (no objecton to borated vaseline), put on a piece of clean gauze, fix it with adhesive straps. Do this at least twice a day. See your doctor.

The relaton of these irritations of the nipple to the cancer described by Sir James Paget in 1850 is the same as the abscess of the breast to the sore nipple of the nursing mother. Both diseases are prevented by care and cleanliness of the nipple. In every periodic examination of the expectant mother during nursing, and later in life, the patient should be told about these irritations of the nipples and how to treat them.

In my own clnic I have seen the life saving results of this knowledge by women.

Paget's cancer of the breast is disappearing in my clinic, and when the isolated case does come it is always in an individual still ignorant of the danger of an irritated nipple.

Bone. We have been very slow in recognizing the importance of taking a roentgen-ray of a bone or joint immediately after a slight injury, or at once when there has been experiences pain or a tenderness, or when a swelling appears, or when there is a limp, or a slight contraction of a joint, or any loss of function. The people have acquired a habit for a roentgen-ray examination when there has been a fracture of a bone, but not so universally for these slight symptoms. It is too often called rheumatism, and treated with medicine without a roentgen-ray examination. The immediate examination with the roentgen-ray of a bone after these early symptoms offers the best chances of a cure if it is cancer, and the best chances of saving the limb with good function whether it is cancer or not. Delay even of a few weeks increases the danger of death if the bone disease is cancer and of loss of function if the disease is not cancer.

A remarkable change has taken place since 1913 in the number of cancer of bone cured, and the number of disease not cancer cured without loss of limb or function. Periodic examinations will only be helpful here in giving the correct information, because one would not take a roentgen-ray of the entire skeleton as a routine procedure.

PERIODIC HEALTH EXAMINATION.*

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NEW ORLEANS.

Almost a year ago, at the yearly meeting of the Louisiana State Medical Society, Dr. William Haggard, at that time President of the American Medical Association, in a somewhat facetious but extremely practical, sensible and careful address on "How to Add Years to Life and Life to Years," concluded his talk with the following aphorism: "Neglect your business if you must, neglect your golf if you can, neglect your wife if you dare, but don't neglect your physician and a yearly physical examination and health inventory on your birthday." This sentence is so pregnant with good sense that it might be well for me to take the last portion of it as a text for my talk this evening—*don't neglect the yearly physical examination.* The reasons for this examination are obvious and I shall attempt to dwell upon them for a few minutes a little later on this evening, but before doing so, I should like to recall to your minds the origin of the movement, as I presume that the subject has been presented to you many times before in the past few years. Most certainly, in a group such as is represented by this audience, the subject of health examination is not a new proposition. As I say, I should like to present to you a brief historical resumé of what has been done in the past in regard to periodic health examinations.

The first physician of whom I have record who advocated such examinations was Dr. Horace Dobell, who, in 1861, at the Royal Infirmary for Diseases of the Chest in London, pointed out the necessity of frequent examinations so that slight deviations from normal health which are not commonly considered of much importance might be recognized early and measures taken to prevent their becoming advanced pathologic lesions. He wrote at this time that there should be instituted as a custom a system of periodical examinations to which all persons submit themselves and to which they should submit their children. Despite this earnest plea of Dr. Dobell, at least as far as we are able to gather from the literature, no further effort was made, certainly not by the medical profession, to encourage the yearly check-up of the bodily system until 1900, when Dr. George Gould, a well

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known editor and ophthalmologist of Philadelphia, addressed the American Medical Association on this subject. His views were apparently received with hearty endorsement and the members of the Association who heard his address believed that what he said was right and practical, but never put into effect his preachings. In 1909, Dr. Foster recommended that policy holders in insurance companies should be given the opportunity to be examined every five years and this was adopted by the Provident Life Insurance Company. In 1911, other life insurance companies were urged to extend this service to their policy holders by an appeal of the actuary of one of the large companies. In 1914, Dr. Goldwater, a name well known to all of you interested in social service, instituted yearly examination of employees of the New York City Health Department. In the same year, the Life Extension Institute was launched in order to provide an organized service of physical examination. This organization was founded with a large and distinguished number of patrons, including Ex-President Taft as Chairman of the Board, and it was supported in part by the Metropolitan Insurance Company and certain eleemosynary institutions. With the founding of this institution and with the awakening of the medical profession throughout the country, the propaganda in favor of this type of examination became much more widespread. Many large institutions offered to their employees the service of bi-yearly examinations; the Army and Navy, at the instance of President Roosevelt, had already required annual examination of all officers, and in 1922 the American Medical Association, which represents the organized medical profession in this country, went on record as endorsing the movement whole heartedly and it has put its shoulder to the wheel with great vigor in order to encourage the acceptance generally of the idea of a periodic health examination for every person. At the present time, public health organizations, state and county medical associations, insurance companies, and so on are enthusiastically endorsing the medical profession's campaign of educating the public to the benefits, to the purpose and to the necessity of a yearly survey of the body's needs and misdeeds. Yet I regret to say that despite all that has been done, the average physician looks with a certain amount of skepticism upon the examinations and the general public has failed to take advantage of what qualified medical men felt would be of tremendous benefit to the individual. It might be said that the Metropolitan Life Insurance Company, with its enormous number of policy holders, offers to all of them free yearly examination, yet only two and one-half per cent of the policy holders have taken advantage of this offer. At the present time, organized routine physical examinations at definite intervals are made in many public schools, as well as private schools. in colleges, universities, and many governmental services, but the individual adult who on his own responsibility has such examinations made is an exception.

In discussing the need of such examinations, it might be well to point out what has been accomplished in the past fifty years in the control of certain diseases and the diminution of the yearly death rate per 100,000 population throughout this country. Within the past comparatively few years, the span of life has increased fifteen years or more per individual, so that now the average life expectancy of a new born babe is 55 years, whereas twenty years ago it was but 40 years. This increase in the average span of life has been accomplished how? It has been accomplished by the reduction of the infant mortality rate—in six years alone a reduction of 25 per cent. It has been accomplished by the reduction in the morbidity and mortality rate of the acute infectious and contagious diseases, and it has been accomplished by public health services, such as the control of milk and water supplies of a community, which has diminished tremendously the incidence of such a disease as typhoid fever, which prior

to the widespread utilization of filtration to purify the water supply of a city was responsible for an appallingly large number of deaths. Tuberculosis, as a result of the active campaign against this disease, has been so greatly reduced that 50 per cent less people die of this disease than did a few years ago. The campaigns against malaria, against hookworm, against syphilis and other animal parasitic diseases, have reduced the mortality and morbidity rate of these diseases. All these organized efforts of a public health nature, which have been communistic rather than individualistic, have added years to the expected life span of a small child, but they have added little if any to the life expectancy of the individual past the age of 40. Indeed, it has been said that an individual who now has reached the age of 45 has less chance of surviving a given period of years than the man of that age had twenty years ago. The individual past the age of 45 is the one who is subject to the degenerative diseases of mid-life. This individual is he or she who will suffer from the effects of the stress and strain of modern civilization, with its manifold complexities. This individual is the one who will soon show the wear and tear of everyday life by degenerative processes in the heart, the blood vessels and the kidneys, the early manifestations of which may have occurred years before the onset of the active symptoms which arise so late in the cycle of disease as to bring the sufferer to the physician when little can be done to stay the steadily progressing already advanced disease.

The why and wherefore of periodical examinations are plain to the discerning mind. There has been an enormous increase in the degenerative diseases and disorders of early, mid and late life. These diseases may be prevented if they are discovered early, or at last their process materially delayed. Furthermore, certain disturbances which we speak of as functional diseases before actual pathology has occurred often represent disorders which are but the forerunner of anatomical destruction of the tissues. These functional disorders often result from faulty habits of life. The examination of an individual should not only include the examination of his body, but also an examination as to his manner of living and methods of conducting his daily occupation and the habits he has formed in regard to eating, sleeping, exercising and relaxing. All these conditions should be gone over periodically; stock should be taken yearly. The average individual knows comparatively little about his body and apparently little about the proper hygiene of that important structure. There is no better way that he may be educated than by discussing once a year with a physician his way and manner of living. Dietetic and hygienic errors can be pointed out by the physician. Early manifestations of heart disease, kidney disease and disorders of the blood may be detected sufficiently early possibly not to prevent them, but to cause them to procrastinate and to delay appearing. The writers who have advocated periodical examinations call attention to the fact that the average civilized individual visits his dentist once or twice a year. They have been taught well by the dental profession. All types of machinery are periodically surveyed. Engines, elevators, automobiles, bridges, all mechanical instruments, are examined regularly to see if structural defects have developed, and yet the most delicate machinery in the world, the most wonderful of all mechanisms, the human body, is neglected and only exceptionally gone over unless the symptoms and signs of diseases have put in an appearance. Even when the manifestations of pathologic change have appeared, it is sad to relate that the average physician will confine himself only to that organ which is dysfunctioning. A thorough examination of the well is of prime importance; of still greater importance is the thorough examination of the unwell. It is Dr. Cabot, I believe, who has said that more mistakes are made through lack of examination than through lack of knowl-

edge. Dr. Frank Billings, of Chicago, the nestor of clinical medicine in these United States, has written that the greatest curse of the medical profession is the failure to make a thorough physical examination. Two years ago he wrote, "I have always been struck by the fact that patients who stripped thus, did it reluctantly and then later remarked that they had never been unclothed for an examination before, so for two years I gave my secretary every night the number of new patients who had never been disrobed for an examination. Over 75 per cent of the total patients, members of doctors' families included, had never had their clothes off in an examination and every one had suffered from a chronic disease." If Dr. Billings can write thus about the individual who is diseased, what can be said about the individual who does not have the evidence of disease who has had a thorough physical examination?

In considering the scope of the examination, I can best illustrate it by reading to you from the form which has been gotten out by the American Medical Association in order to simplify these examinations and yet to have them thorough and complete. It will be noted that on one side of this there is a very large series of questions, all of which must be answered by the individual to be examined and which can be scanned by the physician and studied by him at his leisure. On the other side of the sheet, cut down to the irreducible minimum, is the examination of the patient to be recorded by the physician. These forms should be filed away and should be kept for future record. It is invaluable to the physician to know what the blood pressure was at various intervals, what the examination of the urine has shown, what the heart rate has been, and so on. With these forms preserved and kept, there will be a yearly diary which will be invaluable to the patient as well as to the man who tends this person when he becomes sick.

The question arises as to how frequent periodical examinations should be performed. It is my own feeling that they should be carried out regularly every two years between the ages of 20 and 40. Up to the age of 20, developmental faults are likely to occur. Small children should be examined up to the age of 12 every six months; old children and adolescents, once a year. After the age of 40, again examinations should be made every year. When an individual has passed the age of 50, I would recommend that a thorough examination be made every year and every six months the blood pressure should be taken, the heart ausculted and the urine examined chemically and microscopically.

The result of periodic health examinations may not be studied statistically because, of course, it is impossible to state in definite and round numbers just how much has been added to the life of an individual as a result of these examinations. Certainly it would prove to be enormous, not only in aggregate number of years saved an individual, but also in the reduction of morbidity incidence. It is possible, however, to show the number of defects found in large series of examinations of the apparently well and healthy. It is appalling to read the figures of preventable defects found in examinations of men for the draft. In the examination of the individual who is more advanced in years, the most valuable statistics are those of Drs. Dublin and Fisk, who report on a series of nearly 17,000 white males examined in the year 1921. The examination of this large number of individuals showed that nearly all of them reported errors in personal hygiene, nearly one-fifth of the group suffered from faulty posture; 16 per cent from flat feet; 13 per cent were over 20 per cent over weight; 30 per cent suffered from defective vision; 26 per cent from septic and buried tonsils; 14 per cent from heavy dentistry; 14 per cent showed thickening of the arteries; 20 per cent elevated blood pressure; 40 per cent suffered from chronic constipation; 22 per cent had urinary abnormalities. I could

Form A

HISTORY FORM

Use check mark (✓) in making affirmative answer to questions whenever possible.

1. **Name** **Country of Birth**

2. **Address** **White** **Colored**

3. **Age** **Religion** **Single** **Married** **Widowed** **Divorced**

4. **What is your present occupation**

5. Have you changed your work frequently. **Why**

6. **What are the conditions of your work**

Regular	Dangerous	Dark	Smelly	Seated	Hours per day
Satisfactory	Fatiguing	Light	Noisy	Standing	Days per week
Monotonous	Indoors Out	Dusty	Crowded	Walking	

7. Are your earnings sufficient to support yourself and dependents comfortably.

8. **What are your home conditions**

In a family	Congenial	Quiet	Room and bed to yourself
Alone	Depressing	Irritating	Time to yourself

9. **What are your sleeping conditions**

Hours in bed	Windows open	Restful	Disturbed

10. **How often do you eat**

Regularly	Where	Between meals	Time of meals

11. **Are you a moderate or hearty eater,** taking one or more helpings at a meal of

Meat (including fish and eggs)	Pie, Cake or Pastry	**Salads**
Baked beans	Sweets or Sugar	Bread
Green vegetables (spinach, cabbage, etc.)	Fruits	Butter
Potatoes (rice, macaroni or cereal)		

12. **How much do you drink daily of**

Milk	Tea	Soft Drinks
Water	Coffee	Alcoholic drinks

13. How frequently do you use candy **How much tobacco**

14. **Do you have a movement of the bowels daily** **With the use of drugs**

15. What exercise do you take in addition to your work.

16. What are your social, religious, political, club or trade associations

17. What are your pleasures **Recreations** **Hobbies**

18. **Are you subject to worries** **Moods** **Periods of alternating gloom and cheerfulness**

19. **Have you ever been ill with any of the following, or any other severe illness and at what ages**

Tuberculosis	Scarlet Fever	Frequent Colds
Malaria	Diphtheria	Convulsive Seizures
Rheumatism	Typhoid Fever	Nervous Breakdown
Syphilis or Gonorrhea	Tonsillitis (Sore Throat)	Migraine or Neuralgia

19A. **Do you ever have**

Headaches	Colds	Nausea or vomiting
Loss of appetite	Cramps	Palpitation
Shortness of breath	Swellings	Boils

20. **Have you ever been protected against smallpox typhoid diphtheria or other diseases by vaccination and when**

21 Have you had any accidents, broken bones or surgical operations

22. How often do you consult your dentist **When last**

23. **Are your parents, brothers and sisters living**
If not, what were the causes of death and at what ages

24. Have either of your parents or any brother or sister had consumption cancer
Insanity epilepsy gout diabetes

25. **Do you consider yourself in good health** **If not, what is your complaint**

For Women

26. **Are your monthly periods regular** **Prolonged** **Excessive**

27 **Have they interfered with your occupation** **In what way**

28. **Have pregnancies and confinements been free from accident**

Form B PHYSICAL EXAMINATION RECORD

Name Case No. Date

1. Height Weight, Present Pulse Bl. Pres. Sys. / Dias.
Usual Sitting
Standard After exercise Temp.
(for age and height) 2 minutes later

Hearing R / L Vision R / L Corrected R / L

Urine: appearance Sp. Gr. Alb. Sugar

Feces (when indicated): appearance Blood Parasites

Record only abnormal conditions

2. **Standing**
Posture
Musculature
Nutrition
Skin
Superficial Glands
Female Breast
Hands
Arms
Male Genitalia
Hernia
Legs
Feet
Romberg sign

3. **Sitting**
Hair
Eye reflexes
Nose
Teeth
Gums
Tongue
Tonsils
Pharynx
Ears
Chest
Heart
Lungs
Visceral Ptoses

4. **Lying down**
Abdomen
Reflexes
Sensation
Liver
Spleen
Kidneys
Prostate Gland
Female genitalia
Rectum (hemorrhoids

5. **Summary:** Defects of function and structure and errors of habit

6. **Advice given to the patient:**

continue indefinitely to recount to you the physical impairments from which this large group of presumably normal individuals suffered. The same unhappy total of defects may be the result of the next 20,000 who are reported upon or the 20,000 after that.

SUMMARY.

I have attempted to point out the necessity of periodic health examinations. It seems to me that in an audience such as this the necessity is too obvious and too pertinent to require much delineation. It is, however, a great fault of the human race that we are accustomed to put off till tomorrow what we should do today. I have no doubt that all of you or many of you have said to yourselves time and time again when you have read over the literature and have heard the propaganda of the health examination enthusiasts that you will have such an examination immediately, but have put it off, and put it off to the future that never comes. Therefore, let me urge upon you that you take yourselves in hand and say that you will have such an examination made immediately. If not immediately, determine in your minds that you will follow the slogan of the health enthusiast—"Have a health examination on your birthday."

AN EXAMPLE OF A THOROUGH AND COMPLETE PERIODIC HEALTH EXAMINATION.*

W. A. DEARMAN, M. D.

LONG BEACH, MISSISSIPPI.

In 1922, at the meetng of the American Medical Association in St. Louis, the House of Delegates passed a resolution, that, I believe, was most important, and one which initiated the most important steps to be taken in public health, in recent years. This resolution was passed because requests had been brought to the Association from both medical and lay sources that there be some procedure devised for determining the health status of any given individual. The resolution designated the Council of Health and Public Instruction, of which John Dobson was chairman, to prepare forms which could be used by physicians as a guide in making such examinations.

Later on there were a number of resolutions passed, not only at this meeting but at subsequent meetings of the American Medical Association, in which the Association urged that physicians prepare themselves to make these examinations, and after they were prepared, to notify the public that they were ready and willing to make these keen, searching examinations, on persons believing themselves to be perfectly well. They requested also that a form be prepared by which a more definite and substanatial past history could be outlined in connection with the examination. In view of the above requests, it was deemed wise by the Chairman of Public Health and Hygiene to make a place on the program for an intensive demonstration of a Periodic Health Examination.

In order to make a more thorough and complete examination it is of vital importance that a complete history be developed and recorded. The initials and name of the individual, with the street address and telephone number, should be recorded, and, if a child, the parents' initials and name, with the address, should be recorded. The examination applies not only to adults, male and female, but to children as well.

The following specific instance of an examination may be utilized as an example of the scope and extent of the history and examination with the impressions obtained as a result of the procedure.

Dr. Blank states that he had three month colic in infancy. He was otherwise a healthy, happy normal child. He was born in the country, and from one to five years of age he was plump and healthy. He went barefoot, never had ground itch, and was never examined for hookworm. At the age of six years he entered school. He liked his school work, made good grades, no work being repeated. He played with boys of his own age, and had no fights. His deportment was good. He finished the tenth grade and then entered college. He gives a history of enuresis until twelve years of age, which is the beginning of a psychoneurotic trend. He had no night terrors, no somnambulism. He spent three yearrs in college, finishing at twenty-two years of age. Following this he worked for a year in a newspaper office and then studied medicine for three years, in Kentucky for the first year, and at Tulane for two years. He was graduated from Tulane in 1900, and successfully passed the Mississippi State Board Examination in 1899, one year before graduating, obtaining his license in 1899. He has never failed an examination in his life. His maximum weight was 165 pounds, minimum weight was 137 pounds. At present he weighs 144 pounds, and there has been no recent gain or loss in his weight. The patient is 34 pounds under his calculated ideal weight. He takes plenty of exercise, recreation and diversion, and has been doing this all his life. He says he never gets worried, blue or despondent, and has no troubles, home life being congenial and happy. He is not given to excessive ideation, is not nosophobic, has no hobbys and is not introspective. He retires early, gets up early, sleeping well seven hours out of twenty-four. He has no horrible dreams. He perspires in the summer, is not hypothermic, and likes to work. He has had all the diseases of childhood, though none have been severe, no complications, convalesence uninterrupted. He has had two mild attacks of malaria, pneumonia in 1890, influenza in 1898, and has had tonsillitis for years. He developed a peritonsillar abscess, and had a tonsillectomy performed in April 1925. About twenty years ago he fractured some ribs. About two years ago he developed a duodenal ulcer, which gave rise to a gnawing sensation in the stomach, and was relieved by the in-

*Read before the Mississippi State Medical Association, Jackson, May 10-12, 1927.

gestion of food. He suffered pain about three hours after the intake of food, and a recurrence of the pain with an empty stomach. There was no melena, no occult blood in the stools.. He had several specimens of feces examined after these attacks. Roentgenologic study brought out a deformity of the duodenal cap. No gastric titration, no cholecystography were made, and he was on a restricted diet for a long while, possibly eight or nine months. His habits are excellent, drinks a half cup of coffee in morning, tea occasionally, used tobacco until fifteen years ago, no drugs, no alcohol, no coca colas.

The family history reveals the fact that his father is living at the age of 83 years, in good health, a Minister of the Gospel. His mother died at the age of 49 years with pulmonary tuberculosis. He was exposed to her during her illness in 1894. He has no brothers living, one was shot in a target gallery. He has three sisters living, who are married and have children. One sister is dead, a house fell on her when she was a child. He married at the age of 26 years, has seven children, six of whom are living. The oldest is 25 years of age, and the youngest is 10 years of age. One died at two years of age of laryngeal diphtheria His wife is 48 years of age, and in good health. There is no history of miscarriages.

SPECIAL INQUIRY.

Head: Memory and concentration are good. No headaches, no vertigo, no edema of the face; the special senses are normal. No otitis, no tinnitus, no diplopia. Has been wearing glasses for seven or eight years only to read. His eyes were refracted recently, and he did not need a changing of glasses. No sinus trouble now. Had left maxillary sinus trouble for years and an extraction of one of the bicuspids relieved it. The teeth have been roentgen-rayed several times, one or two apical abscesses were found and removed. No nose bleed. Began turning gray at the age of thirty, hair has been falling out all life, but does not thin out. *Chest*: No cough, no dyspnea, no asthma, no tachycardia, no arythmia, no anginal attacks, no hemoptysis. *Gastro-Intestinal*: Appetite good, big meat eater all his life, eats lots of vegetables and fruit, and is especially fond of milk, drinks about half a gallon a day. No sore mouth, no coated tongue, secretions normal. No dysphagia, no indigestion, no nausea, no vomiting, no gas, no sour stomach, no heart burn, occasionally before supper has a premeal nausea which is not relieved by eating. It is relieved only by going to bed. He has had two or three such attacks each year, during his adult life. No jaundice, no biliary stasis, no appendicitis. Bowels move regularly every day in the year, about twenty minutes after breakfast, movements are normal in color and consistency. No hemorrhoids, no undigested food, no melena, no pruritis. No polyphagia, no polydipsia. *Genito-Urinary*: No history of venereal disease, enuresis until a big boy. Nocturia one, for the past years, no polyuria, no dysuria, good stream, bladder empties freely, urine normal in color, no hematuria. There is no edema of the feet, there is no orchitis, no epididymitis, no backaches, no varicose veins.

Had traumatic sciatica for several years until he had his tonsils removed. Sprained his hip in a camp. He had a burning sensation of the feet for a number of years, so much so that he had to stick his feet out from under the covers at night. This has been better since his tonsils have been removed. Blepharospasm; has to spit frequently. Runs his hands through his hair and throws it on the floor.

PHYSICAL EXAMINATION.

The patient lies on the couch without any unusual shortness of breath or discomfort. He is brunette in type. The hair is abundant, not unusually dry, and the scalp is in good condition. The forehead is prominent, there are no cavities. There is a slight facial tic, especially of the orbicularis muscles, slight enophthalmus, and an unusual prominence of the superciliary ridges. The ciliae are normal in amount and distribution. Superciliae are normal in amount and distribution and meet in the midline with a fuzzy-like growth, rather coarse and canitic. Rosenbach is positive. Joffry's is negative. There are no thyroid eye signs. There is no nystagmus. Conjunctivae are normal in appearance. The sclerae are abnormal in appearance, being slightly muddy, yellowish and injected. Convergence is good and the patient holds it well. Pupils react to light and accomodation. The neck is not stiff. The head is normal in contour, no evidence of past injuries. Facial symmetry is good, there is no facial edema. Nasal ventilation is good, nasal septum intact though slightly deviated to the right. There is no discharge. There is a scar on the upper lip due to a former injury, well healed. There is a rather marked hypotrichosis. The skin is moist and warm, no eruptions, and the muscle tone is good. The external ears are negative, no tophi, no discharge. Hearing in both ears is normal to watchtick. The mastoids, frontal sinuses and antra are negative to pressure. The lips are normal in color, oral hygiene is good, no pyorrhea, several filled teeth, several devitalized looking teeth, approximation is good, mastication not impaired. The tongue protrudes in the midline with a coarse tremor. There is some coat distributed over the tongue. The throat is normal in appearance, tonsillar beds are clean, no marked evidences of post nasal dripping. The soft palpate moves normally. The trachea is in the midline. There are no unusual pulsations in the neck. There is no thyroid struma. The glands in the posterior triangles are

not important, the submaxillaries, supraclavicular, axillaries, epitrochlears and inguinals are not important. The hands are normal in size and shape, long and spade like, palms are moist and warm, no evidence of onychophagy, no dystrophy. His grip in both hands is good. The radial vessels are not important. The radial pulses are synchronous, of good volume, tone and rhythm. The rate is a little slow, pulse rate 66, symptomatic bradycardia. The radial vessels are not felt in diastole. The brachial vessels are not important, no evidences of artero-sclerosis. The biceps, triceps and radial periostial reflexes are active in response. The costal angle is narrow, and the chest is flattened a little on the left side. The supraclavicular spaces are a little retracted and the infraclavicular spaces are a little depressed. There is no retrosternal dullness. The relative cardiac dullness is not apparently increased. The point of maximum intensity is distinct and situated well within the mammillary line. The heart sounds at the apex and base are clear, no shocks, thrills or murmurs. Hirci is normal in amount and distribution. Crines triangular. Arm pits are deep and moist. There are no adventitious sounds heard in the anterior or lateral chest, either before or after coughing. The cervical spine moves equally in all directions without pain. The cervical, dorsal and lumbar spines are straight, and are not tender to percussion. The cervical, dorsal and lumbar spines move equally in all directions without pain. There are no adventitious sounds hard in the posterior chest either before or after coughing. The abdomen is somewhat relaxed. There is a slight tendency to gastro-enteroptosis. No masses or undue points of tenderness or rigidity are palpated in the abdomen. The liver and spleen are not apparaently enlarged. The right kidney cannot be palpated in the dorsal decubitus. The epigastric and abdominal reflexes are active in response. No herniae are noted. The gonads are normal. The cremasteric reflex is active. The lower extremities are apparently equal in size, there is a congenital shortening of the right leg of about ¼ inch There is some trichosis of the lower extremities. The arches are fair, the nails are normal. There is some tendency to corns, no dystrophy, soles are moist and cool, no ankle-clonus. No Babinski, joints are normal, move equally in all normal directions without pain, no edema, no petechiae, no nodes on the tibiae. Muscle tone is good. Patella reflexes are a little sluggish but can be brought out with reinforcement. Heel-knee test done well. Blood pressure systolic 100, diastolic 65. Height, 71 inches, weight 144 pounds.

It is very important that the laboratory work be done in the interest of the case. There is nothing especially interesting in Dr. Blank's laboratory work. Erythrocytes 5,060,000, hemoglobin 90 per cent, leutocytes 7,200, polymorphonuclears 68 per cent, small lymphocyctes 27 per cent, large mononuclears 4 per cent, eosinophiles 1 per cent, blood was negative for malaria. The Wassermann with cholesterin antigen was negative, with acetone antigen also negative. The Meinicke test was negative. The feces was negative for parasites, ameba and occult blood. Both night and morning urine specimens were negative.

IMPRESSION.

Undernutrition 34 pounds; moderate psychoneurosis; congenital shortening of the right leg ¼ inch; symtomatic bradycardia pulse rate 66; suspect mild myocarditis; blood pressure 100/65; healed duodenal ulcer.

HEART DISEASE AND PUBLIC HEALTH.*

GEORGE R. HERRMANN, M. D.

Heart disease is the paramount problem of present day preventive medicine. Heart disease has become the undisputed captain of the men of disability and death. The importance of the subject is forcibly indicated by the Statistical Studies of the American Heart Association, drawn from various sources.

THE "STATISTICS."

Combined statistics put the estimate conservatively at 2 per cent, that is one out of every 50 individuals has heart disease, 2,000,000 of our citizens of the United States have heart disease or 10,000 citizens of New Orleans.

Last year our fair city ranked first among the cities of this nation in deaths from heart disease with a shocking rate of 321 per 100,000, while the nearest companion in distress was Albany, New York, with a rate of 283. During this same year, 1925, the average rate throughout the United States was 186, and thus stands as the principal cause of death. Louisiana has risen from twenty-third rank in 1921,

*Read by invitation before the Louisiana State Conference for Social Betterment, New Orleans, March 17, 1927.

with a rate of 122, to eighteenth place in 1925 with a rate of 168. The death rate from heart disease has increased from 132 in 1900 to 157 in 1921 to 186 per 100,000 in 1925.

The reasons for the rise are suggested from comparative studies of mortality statistics. For New York City the mortality statistics given by Dr. A. E. Cohn in the De Lamar Lecture showed that in 1868 the ratio of deaths from chronic diseases to the total death rate was about 1 to 15, while in 1921 the same ratio was 1 to 2. From this it seems quite apparent that the chronic diseases have assumed a position of importance. Cohn also found the curve of chronic diseases of the circulation rising gradually to 1896 and abruptly since that date. The fall in the death rate of the acute infectious diseases had begun in 1881, while the death rate for pneumonia and tuberculosis began to fall only in 1906 and most conspicuously since 1920. The death rate from heart disease has mounted consistently since 1920, while that for tuberculosis has consistently fallen and that for pneumonia has slowly fallen and has not equalled that of heart disease since 1910. In this same time the cancer death rate has gradually increased, but is still just a bit over half of that for heart disease. In the 1920 statistics for death rate due to heart disease only 1-16 of the cases, and in 1925 perhaps only 1-20 were under 40 years of age. It seems, therefore, that the populace has been spared from death from acute infectious diseases only to succumb to the chronic degenerative diseases. The average expectancy or length of life has been increased to 55 years.

Heart disease is responsible for 1-8 of the deaths of all ages and 1-5 of the deaths of persons over 40 years of age. The mortality or death rate statistics suggest that present conditions continuing, one out of every five of the population living at the age of ten will die of heart disease. The child of ten is three times as likely to die of heart disease as of tuberculosis.

Heart disease has been found to reduce the span of life practically to one-half according to statistics of the Metropolitan, Prudential and New York Life Insurance Companies. 16 per 1000 of large series of school children carefully examined showed serious heart defects. 20 per 1000 of industrial workers were found to have heart disease. 20 per 1000 of insurance applicants were rejected because of heart disease. 40 per 1000 in the army draft were disqualified because of heart disease.

THE SOCIAL ECONOMY.

The economic loss and individual suffering from heart disease is enormous. Heart disease impairs the efficiency of the worker, reduces his output and earning capacity. A certain degree of disability exists for a great many years and a period of complete disability lasting for months or years often ensues. During the periods of disability, often the patient and his family become dependent upon the community.

In Charity Hospital during the year 1925, 1008 cases of chronic circulatory diseases were treated, totaling at the average of 30 hospital days each, 30,000 hospital days, which even at the minimum expense of $1.50 a day cost $45,000. Adding to this the loss in wages, calculated at $3.00 a day, we have a gross loss of $75,000 yearly. This is a minimum estimate and without doubt the cost to the community for indigent cardiac cripples alone is $100,000 yearly. We have no means of even approximating the total economic loss due to heart disease in New Orleans, for the other 9,000 patients are of the middle and upper classes in which the financial figures mount rapidly because of the greater incomes and greater sickness expenses of the afflicted individuals.

There is, however, in addition to the financial losses incurred, an infinitely more distressing aspect, that of the suffering and anguish of the afflicted one, which excites the compassion of even the most unsympathetic soul. The misery and sadness wrought by heart disease often strikes

one as the cruelest irony of fate. Especially is this true when the afflicted one is an innocent child, or a young bread-winning father of an absolutely dependent young brood.

THE CAUSES.

As stated at the outset, the prevention of the ravages of heart disease is the great medical and sociologic problem of today. In order adequately to understand the proposed measures that will be mentioned later, we must have some clear conception of the causes of heart disease. In the first place there are two great groups of cardiac cases, the young adults and the middle aged individuals, who are afflicted. In the young adults certain infectious diseases such as rheumatic fever, inflammatoroy rheumatism, chorea or St. Vitus' Dance, and tonsillitis are the chief exciting agents. These are bacterial in origin, caused by germs, most probably streptococci, such as have finally very recently been established as caustive agents in scarlet fever, erysipelas, and measles. In rheumatic fever affections, there seems to be a predilection of the organisms or their toxins for localizing effects on the heart valves and in the heart muscle. Twenty-five per cent (25%) of the cases of heart disease are due to the results of this infection.

Syphilis plays a second most important role in the production of heart disease in later adult or early middle age. Syphilis accounts for about fifteen per cent (15%) of the general run of heart cases. I believe, and I am quite sure many will agree, that the percentage would be distinctly increased if we had at our disposal more elaborate means and opportunities for microscopic studies. Most certainly a part of the cases classified as of unknown cause, and even some of those classified as arteriosclerotic, are of syphilitic origin. In middle life, that is after the age of forty, the degenerative diseases of the vessels of the heart itself and the muscle deterioration seem to be the chief causes of heart affections.

Arteriosclerosis, which is primarily the chief degenerative disease, is generally held accountable for forty per cent (40%) of the cases of heart disease. As pointed out above, this group of arteriosclerotic heart affections, is the one which accounts for the gradually mounting death rate due to heart disease, and is the group against which we must direct our efforts if we hope to curb the rising tide of cardiac deaths at what is considered the prime of life. Miscellaneous and unknown causes, unfortunately, must be recorded in the remaining twenty per cent (20%) of cases.

THE PREVENTION.

With this information as to the causes of heart disease, we may undertake the outlining of preventive measures. In the first place, it must be evident that the problem is one of such scope that individual activities, uncorrelated and undirected by a central social agency of many departments, are hopeless. There must be a close relationship between physicians, health boards, school boards, social service, employment bureaus, etc.

The American Heart Association, with its branches in several large centers, is such an organization. This is patterned after that of the American Tuberculosis Association. The latter has been encouraged and supported by the laity and has attacked its problems with ample funds and has accomplished much. The control of heart disease has barely been attempted; the field has been virtually untouched.

By proper preventive measures, the incidence of heart disease can be reduced. A considerable number of those having heart disease make practically complete recovery and regain health. Others with damaged hearts will suffer very little or no incapacity if they secure and follow the physician's advice and adapt their mode of living to accord with the rules which long study and wide experience have proven effective.

To touch upon some of these measures in certain specific instances is about all that

we can hope to do. In the rheumatic group of cardiac invalids, the close cooperation of the family physician and of school authorities is essential. First, the search for cases should be started as early as possible. Adequate and prolonged treatment of the rheumatic fever is essential to the prevention of further cardiac damage. If cardiac damage can be established, prolonged rest, preferably in a sanitarium, is the one great hope of preventing invalidism later in life. The removal of the infected tonsils or other foci of infection is considered by many to be a good measure in the prevention of recurrences.

The routine examination of school children reveals, also, often unsuspected valvular changes, the scars of previous infections. The discovery of these evidences of damaged hearts is of the greatest importance, for then the life of the child may be molded so as to spare the dangerous strains incident to adolescence, strains that would tend to cause a progression of the lesions. Besides the possible relief of much of the strain of school life; the cardiac child can be guided into the vocation most suited to his condition and himself. Opportunity is also afforded for the instruction of the child and young adult cardiacs in the avoidance of infections as much as possible and in the prompt bed treatment of his every infectious illness, no matter how insignificant it may appear to be.

Congenital heart lesions are likewise often discovered during school examinations, and the same points above indicated should apply to an individual with this type of heart disease.

Syphilis is a great social problem in itself. Syphilitic heart disease can probably be prevented in a large percentage of cases by thoroughly adequate, intensive and prolonged antisyphilitic treatment. There is great need here for the social follow-up, for unfortunately the early manifestations are without symptoms sufficient to inconvenience the patient. The disappearance of the primary painless lesions often without treatment or with only inadequate local applications causes all too many patients to consider themselves cured and to seek no further medication. The serious heart damages often do not become apparent to the patient for a decade or two. After the symptoms once appear the progress is unfortunately rapid and the process can be arrested only with the greatest of difficulty.

The problem of the degenerative causes of heart diesase is the one least clearly understood. There is little doubt that the mode of life one leads has much to do with one's span of life. Some families are endowed with good wear and tear resisting hearts and blood vessels, while others have the prematurely aging types of arteries. In both types abuse and indiscretions will produce damages with, of course, an unfair partiality. It is safer for one to consider himself in the prematurely aging type and live accordingly, with as a reward added years of activity and comfort.

Foci of infections, chronic in nature, such as abscesses at the roots of the teeth or about the teeth, even low grade infections of the tonsils, sinuses, gall bladder and prostate, may in time contribute to vascular degenerative changes. The modern high tension of business life with little sunshine, fresh air, and exercise, but with much rich protein and fat food and some spirituous liquors to add to the pleasures of the table, and an excessive use of tobacco are conducive to high blood pressure, hardening of the arteries, and the resulting cardiovascular damage. A program of rigid reeducation is necessary to reduce the number of individuals falling victim to heart disease of this type.

In this connection, the value of the periodic health examination should be emphasized. The detection of the early slight changes and the change of the mode of life, before irreparable damage is done, is what must be accomplished. The average man would not think of running his motor car year in and year out without ever having

it looked over. The general rule is to send the car to an expert mechanic to be carefully inspected and minor adjustments made every 5000 miles, yet many of these same careful men will drive their own selves not a few months, but often ten to twenty years without inspection. They await the onset of troubles (symptoms), which usually appear sufficiently disturbing only after the damage is extensive.

In the case of many patients, the symptoms appear just at a time in life when responsibilities are great. The curtailment of the income is a serious matter. In many of the laboring class, the first cardiac break spells the doom of self support. It is just in this group that great difficulties arise. An organized heart association, with an employment bureau controlling the sedentary and light occupations, would be of infinite value. Civilian rehabilitation is a neglected social responsibility. The workmen's compensation act and health insurance are given as the reasons by some employers for not employing some handicapped men. Others point out that they have physicians employed for the specific purpose of guarding against the employment of such individuals.

What, of course, is to become of our partially disabled patients. If they were given any of the many sedentary positions they might carry on comfortably on an economic level for years. If forced to take up their hard physical work, they will break down again shortly and become hospital bed patients.

The method of meeting this problem of the cardiac cripple for the community and the individual alike is to face the facts and act accordingly. With a wider dissemination of the knowledge concerning the causes of heart disease and a wider recognition of the importance and the means of detecting the abnormalities in the early stages and with a whole-hearted determination on the part of the community as a whole organized in a group such as a chapter of the American Heart Association, a very large part of the economic waste and of the individual suffering can be abolished.

INDICATIONS FOR SURGICAL PROCEDURE IN SPHENOIDITIS FROM OPHTHALMOLOGICAL STUDIES.*

M. EARLE BROWN, M. D.

NEW ORLEANS.

Since the publication of Doctor Greenfield Sluder's compilation of studies in 1918 upon "Headaches and Eye Disorders of Nasal Origin," the sphenoid and its diseases, occupying as it does, a position of great importance in the etiology of diseases affecting the visual pathway, has been the subject of much discussion in recent years among rhinologists and ophthalmologists, especially as regards diagnosis.

One can easily visualize the purulent type with its drippings observed during routine intranasal examinations, and its confirmation by comparison of the densities, and shadows contributed by the radiologist. The difficulty of diagnosis then, is restricted to the hyperplastic type, where many rhinologists are confronted with patients suffering from that train of symptoms, the sphenoidal syndrome, from which thtey can obtain only temporary relief from internal medication (opiates). In these cases the intranasal examination is negative and consultations with the radiologist elicits pathology in the sphenoid as manifested by changes in the Granger line. Here are some of the contentions of many of my confreres.

Could not the patient be suffering from hysteria, or an intracranial tumor, and the bone changes be coincident with a previous disease? Is it not possible that esotropia is the etiological factor, producing the violent headaches which is the chief complaint? Has the patient been refracted and does he wear correcting lenses?

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*Read before Louisiana State Medical Society, New Orleans, April 26-28, 1927.

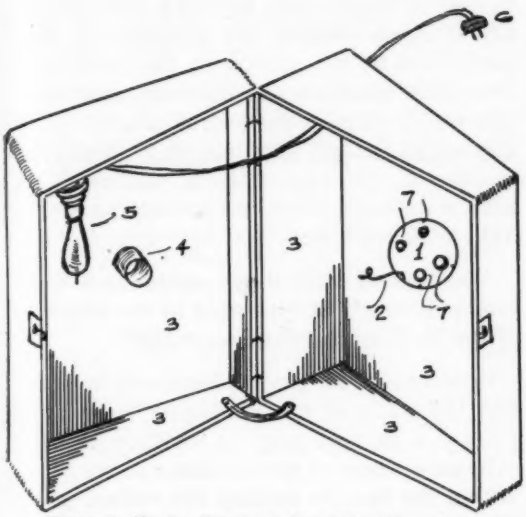

Figure 1—No. 1. Revolving disc, painted a neutral gray, containing four apertures. No. 2. Centering spring and lock for disc. No. 3. Inner surface of box painted dead black. No. 4. Central visual aperture 2 inches in diameter. No. 5. Electric day light filter Mazda, 10 w, 120 v. No. 6. Socket for wall attachment. No. 7. Apertures, Red, 3mm; Green, 5mm; Blue, 7mm; Yellow, 3mm.

Again, some excellent rhinologists doubt the existence of membranous changes in the sphenoid, and its ability to cause symptoms. I am sure many of you have operated upon mastoids diagnosed from clinical symptoms only, and found diseased bone cells but no pus and the patients were relieved from their symptoms. The pathological studies of McMahon, both macro- and microscopical, made upon diseased sphenoids and published in October, 1926, should convince the most skeptical.

We see patients who state that they have been chronic sufferers of upper half headaches for years, presenting as a terminal result evidence of permanent blindness due to paraocular disease (retrobulbar neuritis) and optic nerve atrophies, also cases of fifth cranial nerve irritation (trifacial neuralgia) whose etiology has been traced to the hyperplastic changes within the sphenoid bone and which could have been prevented by an early diagnosis and the proper treatment.

Hysteria would present a type of peripheral fields, tubular in character with interlacing of colors, red, green and blue, or occupying a false position in the fields. Intracranial tumors would in addition to the behavior of colors, present one of the many types of anopsia, and the usual demonstrable pathology so well known that its repetition here seems useless. Esotropia is a symptom of muscle imbalance, present in sphenoiditis of the hyperplastic type due to defective innervation. Asthenopia dolens (pain in the eyes) and asthenopia cephalalgia (headache) is a symptom grouped under the terminology of "Sphenoidal Syndrome" being produced by interference of the innervation to the exterior eye muscles in hyperplastic sphenoiditis. Errors of refraction, and especially is this true of hyperopia and the astigmatism of similar types, produce headaches generally experienced after prolongd use of the eyes, and as a rule are relieved by sleep.

In hyperplastic sphenoiditis, normal vision is a cardinal symptom. Then, by eliminating all the factors which are capable of producing such symptoms, there remains now as in the beginning two subjects for the rhinologist to study, namely, clinical symptoms and the radiograph. Let us now outline for you the diagnostic points in the hyperplastic type of sphenoiditis from ophthalmological studies.

1—Central vision is normal, the form sense.
2—Color perception is normal, the color sense.
3—Color acuity (central) showing reduction of the threshold.
4—Marriotte's blind spot is normal.
5—Esotropia is present in varying degrees.
6—Concentric contractions of the peripheral field for form and colors.
7—Sphenoidal syndrome (clinical).
8—The absence of pathology in the fundus.

Having then arrived at the diagnosis by all the collateral methods at your command and having definitely decided the condition to be one of hyperplastic sphenoiditis, bilateral or unilateral, upon what information will you outline the treatment and formulate your prognosis. The symptom complex

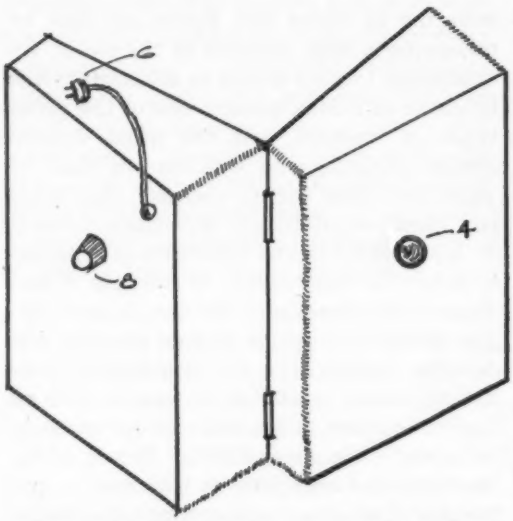

Figure 2—External surface of box painted a neutral gray. No. 4. Central visual aperture 2 inches in diameter. No. 6. Socket for wall attachment. No. 8. Thumb screw to revolve disc. See figure 1, number 1.

is of course very important, but also very inconsistent, descriptions of pain by patients being exaggerated by some and modified by others, then the severity and extent of the disease cannot be determined from the symptom complex. Shadows upon the graph, with their interpretation, can definitely locate the disease and determine whether it is unilateral or bilateral, and no more. As the color acuity threshold becomes lowered before the threshold for visual acuity, we have here a method of determining affections of the optic nerve before their manifestation by a lowered visual threshold or by pathological changes within the eye ball as observed with the ophthalmoscope. In order that the test may not become confused with the one for color perception a brief description follows.

The apparatus, Figures 1 and 2, consists of a box painted a neutral gray externally in order that the retina will be pre-exposed to a natural gray the same brightness as the colored stimuli before the targets are revolved into the visual aperture. The inner surface of the box is painted a dead black in order that cross shadows will become absorbed. The source of light is so arranged as to stimulate that of a pure north sky of approximately the intensity of the sun's rays at ten o'clock in the morning, free from shadows and flooding upon the disc which contains the colored targets. Inasmuch as natural illumination is ideal but inconstant, we use artificial illumination with a daylight filter, producing the ideal light with constancy.

The colored stimuli are made with colored papers of the type used in the targets of the De Zeng standard perimeter.

In order that the environment may be perfect the walls of my examining room are painted a neutral gray, in addition to the external surface of the test box and the disc within the box, so making the retinal preexposure complete.

Color Acuity: Patients are required to determine the color of the test,—objects placed six meters away upon a plane at the same level of the eyes. Patients with normal vision recognize a red test object three millimeters in diameter, a green test object five millimeters in diameter, and a blue test object seven millimeters in diameter. By reducing the distance between the patient and the test object the threshold for each color is determined.

Concentric contractions of the peripheral fields show definitely the degree of percipient screen deficiency as a result of the perineuritis, the origin of which lies within the diseased sphenoid.

Surgical interference is indicated to prevent progression from perineuritis to diffuse and axial neuritis, which of course, causes permanent blindness.

DISCUSSION.

Dr. Carl Granberry (New Orleans): The diagnosis of sphenoiditis in some of its types, notably the hyperplastic type, has always been a rather difficult problem for some of us, and any assistance from sources other than have been at our command is certainly welcome.

Hitherto we have had to rely on the clinical symptoms, as have been so well outlined by Dr. Sluder of St. Louis in his classic, "Headaches and Eye Disorders of Nasal Origin", and the

roentgen-ray picture. Dr. A. Granger, of New Orleans, has given us most valuable information with his noted "G" line.

Before we began recognizing hyperplastic conditions of the sphenoid, some form of discharge from this sinus was necessary as a sign before diagnosing sphenoiditis, but in this particular type (hyperplastic) the direct vision into the nose with the nasal speculum and the examination with the naso-pharyngoscope reveal nothing that will assist us in such a diagnosis. Therefore when Dr. Brown came out with his "Color Acuity" test we immediately seized upon it as a valuable adjunct to our diagnosis. Not only has this test been valuable as an aid to diagnosis, but the visual fields of such taken after the operative procedure have revealed to us startling results, as have been demonstrated by Dr. Brown in his lantern slides. The rhinologists have also been able to relieve some of the "mystifying" headaches, which in itself is quite gratifying.

I do not pretend to suggest any particular method of performing a sphenoidectomy, but will say that in this type of sphenoiditis the anterior wall of the sphenoid is dense and firm, and it is difficult, and extremely difficult in some cases, to make the initial opening. Dr. Homer Dupuy, of this city, demonstrated a long handled burr at a recent meeting of the New Orleans Ophthalmological and Oto-Laryngological Society which at the time was looked on by me with disfavor, but in some recent cases I quickly realized the feasibility of having such a strong instrument at hand.

Again I wish to commend and thank Dr. Brown for giving to us another "Indication for Surgical Procedure in Sphenoiditis," as has been demonstrated by his color acuity test.

Dr. G. W. Blackshear, (Opelika, Ala.): It has been with a great deal of pleasure that I have received the slides presented by Dr. Brown, and have listened to what he has had to say in regard to surgical interference in sphenoiditis from opthalmological study.

It was my good fortune to co-operate, to some extent, with Dr. Brown in some of his earlier experiments along these lines, and I am sure that he has given us a most valuable aid in the indications for surgical interference.

While associated with the Eye, Ear, Nose and Throat Hospital, of this city, Dr. Brown frequently referred patients to me with the diagnosis of sphenoiditis—made by his visual field studies. Often, after the most careful and painstaking naso-pharyngeal examination, I would be unable to verify his diagnosis. All of these cases were then referred to the roentgen-ray laboratory. Invariably, without a single exception, his diagnosis would be confirmed by the Granger line, and a sphenoidectomy be done. Then, following the operative procedure; the concentric contraction of the peripheral field for form and color, would either return to normal, or be rapidly approaching normal, in from four to six weeks.

To you who have access to the modern roentgen-ray laboratory, the making of visual fields on suspected cases of sphenoiditis might seem superfluous, and to be of no use. But to us, situated in localities where the Granger technique has not yet been adopted, the visual fields, as described by Dr. Brown, will be of inestimable value.

How often are we confronted with situations in which, from the history, we are sure we are dealing with sphenoidal involvement, but, due to lack of evidence on inspection, and to the lack of satisfactory radiographs, we hesitate to recommend surgical interference. In all cases, or situations like this, I feel that the visual fields, as pictured by Dr. Brown, can be relied on wholly.

We are all governed more or less, in arriving at conclusions, by personal experience and observation; and from the results that I have seen, from the work and studies of Dr. Brown I have no hesitancy in recommending sphenoidectomies to all who show the concentric contraction of the peripheral field for form and color, as presented and demonstrated by Dr. Brown.

Dr. E. Weiner (New Orleans): I am an intern at Charity Hospital. If I may have permission I would like to say a few words about hyperplastic sphenoiditis—the symptoms, treatment and the result as obtained in my own particular case.

I had this condition for some time without having had it recognized; and, while often examined, roentgen-ray pictures were not taken because the symptoms did not seem to point to any special condition. I suffered with frontal and occipital headaches, most of the pain being in the root of the nose, not very severe, nor did they last long. They would come for a month or two, then go away and return later. There was associated nausea and loss of appetite. After having undergone several different examinations, all negative, I was finally left to go my way as a probable neurasthenic.

But everything came to a climax last November. While making my rounds in the hospital, I suddenly became very dizzy and had severe frontal pain. I did not think much of it, but the pain was continuous and would not go away; it lasted several hours. I attempted to do my work but felt rather sick and very nauseated. Most of the pain was in the root of the nose and some in the occipital region. X-rays were taken of the sinuses and the report came back, "Bilateral Hy-

perplastic Sphenoiditis"—according to the roentgenograms it was definite.

I was advised to consult Dr. Brown and have my vision tested. There was marked contraction of both visual fields, more pronounced on the left side, but on the right there was also considerable contraction.

I was then told to consult an ear, nose and throat specialist. Rhinoscopy revealed a slightly deviated nasal septum and a small bone spur in the posterior nares. Nasal douches were tried, but the symptoms were hardly relieved by them. I finally consented to a submucous resection and removal of the bone spur and when this was done soon experienced relief. The sinuses were not touched. Twenty-six days later another visual field was made and this showed a marked improvement (about 300 per cent better than before operation). Another taken two months later showed still further improvement to almost normal.

I am no longer nauseated have gained six pounds and weigh more now than ever before. I feel better in every way, in fact, I am in tip top shape and have had no recurrence of the symptoms. I think I have been cured.

Dr. Homer Dupuy, (New Orleans): Of course I feel flattered that my sphenoid burr was called into use to enter the anterior wall. The relation of the sphenoid sinus to its surrounding intra-cranial structures certainly makes it a real "danger zone". Any diagnostic method which will help point the way to the sinus deserves our consideration. I have co-operated with Dr. Brown in the Charity Hospital. It is a highly refined method depending on the personal equation of the observer, yet I am impressed that there may be something in it. Let me emphasize that we are not so cocksure that the sphenoid causes so many eye disturbances. White, of Boston, an authority, is now reversing his former position. We now know that there are other factors just as important, tonsils and the teeth for instance. These give rise to blood stream infections. But when the sphenoid does become a causative factor, let us hope that this method sponsored by Dr. Brown may aid us in making an early diagnosis. We need all the help possible before venturing into the sphenoid.

(Discussion abbreviated by Dr. Dupuy.)

Dr. M. Earle Brown (closing): One must not get the impression that peripheral visual fields are so difficult to make, in fact they are not as difficult as Dr. Dupuy thinks.

My technician, Miss Octavia Prejean, makes all of my field studies, both with artificial light and natural (North blue sky at ten in the morning). Of course I check her fields but never find errors.

The difficulty lies more with the technician than with the subject, and requires great patience and much persistence.

The color acuity test has taught us that a 20/20 vision no longer means normal vision.

We have grouped many scientific conclusions, the sum total of which we believe to be the definite diagnosis of hyperplastic sphenoiditis.

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SOME OBSERVATIONS MADE IN A RECENT VISIT TO SEVERAL EUROPEAN EYE CLINICS.

H. N. BLUM, M. D.,

NEW ORLEANS.

The clinics which I visited in Europe were those of Paris, Freiburg, Munich, Vienna, Budapest and Prague. The time of my visit was during the fall and winter months. This season, though not the most beautiful in Europe, was chosen because during the summer when the climate in most of those countries is very pleasant,

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the chiefs of clinics are on their vacations. Probably spring would be best, for then the weather is delightful and there would be no Christmas holiday to interrupt the work.

I found that Americans were welcome everywhere except in Munich where the professor seemed to have some animus towards his colleagues from across the sea. My reception elsewhere was extremely cordial, and I believe one of the most valuable lessons one can learn in these places is the art of extending the hand of friendship and aid to the visitor from foreign countries. America is too apt to consider herself self-sufficient, and to be indifferent to foreigners when they come without title or distinction. Not only the doctors in the hospitals, but also the man in the street, never hesitates to assist the stranger seeking help and guidance. These kindnesses which I was shown are amongst the most pleasant recollections of my visit to Europe.

The hospitals in Paris which I attended were the Lariboisiere, Hotel Dieu, Rothschild Clinic, Quinze Vingt, and Dr. Poullard's Clinic. The institutions are excellent in equipment and in the character and the amount of clinical material. Their staffs represent the best in the City of Paris, although there are other good men here like Magitot and Rochon-Duvigneaud. The men of these staffs are the leaders of ophthalmology in France, together with men like Lagrange of Bordeaux, whose name is familiar to all students of glaucoma. Morax, Terrien, Valude, Kalt, Chevallereux, Chaillou, Dupuy-Dutemps, D'Esperville and Poullard are the men I saw at work in Paris. The most striking feature of their surgical work is its independence and originality. Their work calls forth your admiration for its utter sacrifice of all useless and unnecessary measures, and for the ability of some of these men to do a tremendous amount of work with great skill, with marked rapidity, and in some instances with very little assistance. French surgery is different. It is quite a thing apart as compared with the surgery of other countries. It is artistic and brilliant, and never fails to interest and to instruct. Though there are certain orthodox procedures common to all ophthalmic clinics, one meets with examples of surgical methods which reflect the originality of the operator. So far as equipment is concerned, there is one particular thing which is common to all clinics and this applies to all the departments of surgery. I refer to the use of dry heat for the sterilization of instruments. This method of sterilization has been used in France for a number of years and the French surgeons cannot understand why it has not been adopted in America. The advantages of this method are the prevention of rust, the retaining of the sharp cutting edge of instruments, and the consequent longevity of all instruments.

Preparation for operation on the eyeball in most of the clinics includes a smear and culture of the conjunctiva in a search for pathogenic organisms. Morax tells me that he must obtain a negative culture before operating. In some of the clinics the skin in the neighborhood of the field of operation is aseptisized by a solution of tincture of iodine. I believe that the combination used in Paris is that of iodin, alcohol and glycerin, though I have forgotten the exact proportions. A mixture of iodin with tincture of krameria is used in Budapest where even the eye lashes are painted with the antiseptic. In all of the European clinics the conjunctival sac is irrigated with a weak solution of oxy-cyanid of mercury as a last step in the preparation for operation. The anesthetic of choice in all European clinics for intraocular operations is cocain. One could not fail to be impressed by the large amount of cocain used in all clinics. It is the belief of all American observers that this must be accounted for either by a less toxic cocain or by the ability of European patients to withstand the drug. It might be advisable at this point to mention also that in some European clinics adrenalin

solution was frequently instilled into the conjunctival sac before and during operation, a procedure which is not looked upon with favor in this country. In one particular clinic where this practice was common there was a coincident apparent increase in the number of cases of postoperative hyphemia.

In intraocular operations, Morax always uses akinesis and a retro-bulbar injection of novocain and adrenalin with the needle passed through the skin near the outer canthus. By this method he obtains a paralysis of the orbicularis and a dependable anesthesia. One objection to the retrobular use of novocain is the occasional hemorrhage which follows and which may cause the postponement of the operation. In the Paris clinics the lid speculum is used in operations on the eyeball and, as an additional safeguard, the hand of the assistant keeps the speculum under control in order to prevent pressure on the eyeball. In this connection I wish to say here that Blashcovics has devised a speculum which, though complicated, is useful in many cases. This instrument prevents lid pressure by holding the lids away from the eyeball. Meller, in Vienna, contends, however, that even a poorly trained assistant can control the lids better with his fingers than can be done with the best speculum ever devised. Morax, in his cataract extractions, prepares a conjunctival flap or a bridge. In the latter case a longer corneal incision must be made. Kalt, always, and Chevallereux and Chaillou sometimes, make a corneal flap after having introduced a silk suture in the cornea and episclera. This suture is sometimes placed vertically in the cornea and sometimes horizontally, depending upon the personality of the operator. The first loop in the suture is made and then the incision is done, entirely in the cornea, the knife passing through the two anchorages of the suture which are a millimeter to a millimeter and a half apart. One may thus see that the incision requires much accuracy and much skill. Kalt then proceeds to remove the cataract in its capsule by means of his forceps, quickly ties the suture, introduces a hook to the edge of the pupil, withdraws the iris and performs a small iridectomy. I saw him once fail to bring out the knife in its proper place and the suture was therefore removed. In the performance of this operation one must use a special needle and special silk.

The use of the capsule forceps in cataract extraction is almost universal in Europe, though there are some operators of the old school who will prefer to use the cystotome. It is my opinion that the employment of capsule forceps makes removal of the immature cataract very much easier. The American visitor is surprised to find that a large percentage of cataract extraction is done on those with immature cataracts. When I was in Vienna an American woman came all the way from Atlantic City to have an immature cataract operated because she did not believe that it could be done in this country. When the cystotome is used in Europe the operator spends more time incising the capsule than is customary over here. In connection with the question of maturity of cataracts I was amused one day when Morax asked me if I could tell when a cataract was mature. When I answered him that I could tell, he smiled and said, "I cannot," and turned away. In soft cataracts it is customary in some Parisian clinics to use the aspirator, one end of which is placed in the anterior chamber and the other end in the mouth of the operator. Some men prefer an aspirator with a syringe attached. The aspirator is not a new instrument having first been invented many centuries ago and rediscovered a number of times. For the use of this instrument it is necessary for one to have complete confidence in his patient.

One striking observation made by all American visitors to European clinics is the complete co-operation between patient and physician. Another important factor in the excellence of their results is the feeling of loyalty which exists among the

members of the staff. These men work together during a long period of years, the chief holding his professorial chair usually for many years from which he is removed only by death or promotion, and the juniors holding their positions for as long as they feel that they can learn, or until they are called elsewhere. The nurses are women whose training is practical, and who work continuously in these ophthalmic clinics year after year. Even the orderlies remain in their positions for a long time and acquire a great deal of practical knowledge in the preparation for ophthalmic operations and even in some cases prove useful in the room during the operation. The last is noticeably so in Vienna.

One does not fail to observe in all European eye clinics the care which is taken to operate on a perfectly dry field. The assistant is kept busy sponging the fluids from the conjunctival sac in order to prevent aspiration of infected material into the anterior chamber.

Opportunity in Paris to see plastic surgery for the correction of entropion or ectropion was not very great and the only surgery of this kind I saw there was at the Lariboisiere. Morax is a very skillful surgeon. He wields his scapel with as much grace as a painter does a brush, and the exactness with which his flaps are formed and the consequent nicety of adaptation of wound edges is an accomplishment which the ordinary visitor can never hope to attain. Therefore, one is at a loss which to admire the most—his cataract extractions or his plastic surgery, or indeed, his operation of dacryo-rhinostomy. It was interesting to note the great number of silk sutures used in the closure of his wounds for lid defects. At the Lariboisiere and at the Rothschild I saw several operations performed for the cure of dacryocystitis. In all cases the above mentioned operation was performed. Both Morax and Dupuy-Dutemps do this procedure beautifully and their technic is about the same. The only difference I could see was in the use of the short curved needle by one and the Riverdin by the other. The exposure of the lacrymal sac, the incision in its medial wall by a knife introduced through the canaliculis, the making of a window in the lateral wall of the nose, incision of the nasal mucous membrane and finally the lateral anastomosis of the sac and nasal mucous membrane, are the steps of a beautifully conceived and executed operation. Chaillou at the Quinze-Vignt extirpates the lacrymal sac and cauterizes the mucous membrane of the nasal duct with an electric cautery, obtaining good results in all cases.

In the Parisian clinics, the American visitor could not fail to notice the hearty welcome extended him. One is greeted with a smile and a hearty handshake and receives a cordial invitation to come again. When Professor Terrien discovered that an American was present, he insisted upon giving the visitor the best place to observe the operation. Prof. Terrien was received very cordially in America and he wishes to reciprocate the courtesies shown him over here.

Both he and Morax are surgeons of the first rank and authors of valuable contributions to ophthalmic literature, and one can therefore appreciate the difficult task it was to fill the vacancy occurring last year. The appointment was finally made on length of service. I regret that on the occasion of my second visit to Paris, Prof. Terrien was sick and unable to operate.

In order to show the originality of the French ophthalmologists I will cite the operation for corneo-scleral trephining done by Chevallereux in which the conjunctival incision was made at the upper limbus, the conjunctiva undermined above and sutured to the conjunctiva below instead of the orthodox Elliott flap. This made an easier operation possible though it did not strike me as being as safe as the older method. In order to demonstrate the skill and the rapidity which some of these men use I can tell of witnessing besides minor operations, eleven cataract

operations performed by Valude one afternoon. This operator's method of enucleating eyes is quite different from that done by any other operator I have ever seen. He seizes the cornea with a modified volsellum forceps, pulls the eyeball forward, circumcises the cornea with a sharp scissors end, pushes back the conjunctiva with the scissors and divides the tendons with the same scissors from his position in front of the patient.

My visit to Freiberg was a memorable one for it introduced me to Professor Axenfeld with whose accomplishments all students of ophthalmology are familiar. Freiberg is extremely difficult to reach from Paris but it proved to be very worth while when the goal was finally attained. Situated on the edge of the Black Forest, its location is very beautiful and its climate should be very delightful in the summer time. In the winter, however, this latter leaves much to be desired, and that is probably true of all parts of Europe, for it was cold and wet everywhere. In the absence of the warm hotels, which are so dear to the hearts of all Americans, this feature of my trip was not very attractive. Freiberg is a beautiful and remarkably clean old town of 80,000 people. It is the home of the University of Freiberg which is one of the largest and best known schools of Germany and which has an attendance of 5,000 students. Prof. Axenfeld's clinic is situated in the Ophthalmic Hospital, as is the case in other German universities. His private office is here and his private patients are interned in the hospital.

I would be very ungrateful and unappreciative if I did not again feel called upon to testify to the cordiality of my welcome. Prof. Axenfeld overwhelmed me with courtesies and it was with great regret that I had to leave Freiberg at the end of a week. Axenfeld is a first class operator and an excellent clinician. His book on the bacteriology of the eye has made us acquainted with his standing in the department of microscopical research. His treatise on diseases of the eye is a classic with which most of us are familiar. Attention in this clinic was called to the wide use of light therapy and a great deal of importance was attached to its use in certain diseases like phlyctenular keratitis. One noticed great care in the operating room to avoid infection in the operative work, and attention was directed to the use of rubber overshoes by the chief and the first assistant in the operating room. In all of his cataract extractions, Axenfeld performed canthotomy and superior rectus tendon fixation. He does not attach importance to the necessity of obtaining a negative smear and culture of the conjunctiva in intraocular surgery. He believes that a macroscopically clean conjunctiva is all that is necessary.

In Vienna Professor Meller occupies the chair of ophthalmology in the University and is in charge of the first eye clinic in the Allgemeine Krankenhaus. The death of Professor Dimmer made vacant the senior position of the second clinic and Dr. Guist is temporarily in charge there. He and Dr. Pillat do the surgical work in this clinic.

Ophthalmology in Vienna continues to be a popular subject for post-graduate study by visiting Americans, though my personal opinion is that it is not in the preeminent position that it occupied in 1922, so far as concerns attendance by American students. Professor Lauber, Profesor Linder, together with Privat-Docent, Bachstez and Fuchs and Sofar, constitute, with the others above mentioned, the larger part of the teaching staff in whom Americans are interested. Professor Meller teaches only those Americans who are entered in the autumn class of sixteen men, which annually attracts to Vienna those interested in our department of medicine. Prof. Fuchs delivers only a few lectures to this class. It was my privilege to see Professor Meller operate several times and to admire his brand of surgery. Meller is not a man of fads and his methods are those which have been found dependable

by all teachers of the German school. His skill in the operating room is something to be admired. He makes ophthalmic surgery appear to be extremely easy, but when one considers the tremendous amount of experience he has had and the enormous clientele, one ceases to wonder at the facility with which the operations are performed. Dr. Guist and Dr. Pillat are younger men. They are both very careful operators, deliberate and painstaking in their thoroughness. The cataract operations done here were performed after the method of Hess. Guist is perfecting a new method of cataract extraction wherein the operator makes a short corneal incision with a keratome, and then proceeds to break up the lens in the anterior chamber, evacuating the trituated lens from the chamber and completes the operation by perforating the hyaloid membrane. This last step is done in order to prevent anterior synechia by filling the cavity with vitreous. One may see that he violates several ideas which we have held concerning cataract extraction. I saw the operation performed a couple of times and also saw cases where it had been done recently. The results seemed excellent though there was marked posterior keratitis following the operation.

Amongst the allied branches of medicine in which visiting ophthalmologists are interested and which are particularly well represented in Vienna, are ear, nose and throat surgery, and radiology of the head. Dr. Hirsch in the Hajek Clinic and Professor Schuller in radiology, were found to be wonderful teachers and their classes were always easily filled. Hirsch has done more pituitary operations than any other man and his mortality is therefore lower than one usually finds in this branch of surgery. His method of teaching anatomy of the nose and sinuses is very striking and extremely practical. He has been teaching this subject for more than twenty years and his anatomical specimens are more than adequate.

Professor Schuller is a radiologist and an anatomist and his demonstrations are explicit and thorough. He never hesitates to name a line or a point and his judgment of the values of shadows and fine differentiations of shadows cannot fail to strike one with admiration for his ability. It was with a great deal of pleasure that I heard him speak with enthusiasm of the work of Granger.

Leaving Vienna, my next visit was to Budapest—in order to see the clinics of Groscz and that of Blascovics. We were far from home (I now say "we" for Dr. Smith joined me in Vienna), and we were made to feel welcome in these clinics in a way that warmed our hearts. Prof. Groscz is a man of great reputation in Hungary and, aside from his professorship in the university, he holds a place in the hearts of his countrymen. Everybody feels that he is a good man and one who has done much good for his country. In entertaining us he not only made every effort to show us his hospital, his methods of instruction to his university students, and his methods of performing ophthalmic operations, but he went beyond this and did that which most men do not, he assisted in making it possible for us to see the work done in other clinics in Budapest and thereby showed his truly generous nature. Professor Groscz is an extremely expert operator. His cataract operations are performed with great dexterity and celerity and are the most perfect examples of smoothness which I have ever seen in ophthalmology. His enucleation operation done according to the Vienna method and with short, straight scissors, is a thing of beauty. Six snips of the scissors are all that he requires to complete the operation. He always uses a superior rectus fixation in his cataract work and makes a conjunctival flap to complete his section. Both here and in the second eye clinic of Professor Hoor, we found the dry heat method of sterilization of instruments.

In Professor Blascovic's clinic we expected to meet one of the world's plastic surgeons and a man of great originality and resource. We were not disappointed.

He is a man of great affability and makes his visitor welcome at once. His clinic is a haven for those seeking practical instruction under one of the world's great masters and so popular is his work that arrangements must be made several months ahead of time. Professor Blascovics does not speak English and, therefore, the instruction is carried on in German. For our benefit he spoke with great distinctness and very slowly so that it was possible for us to understand most of what he said in explanation of his operative work. Where we failed to understand, his chief assistant who is a man of great accomplishment and who also speaks English, made it possible for us to comprehend the explanation. Blascovics is a very deliberate operator who never becomes flustered or excited. He is a man of great self-possession made possible, no doubt, by a phlegmatic nature and a world of experience. His method of performing cataract extraction is by preparing a conjunctival flap above, which is drawn over the corneal wound and anchored below to the bulbar conjunctiva. He completes his operation by the introduction of several drops of a steriile 20 per cent solution of argyrol into the anterior chamber. His method of operating for entropion is called "turning the tarsus" and consists in freeing the anterior and posterior surfaces of the fibro-cartilage of the lid from the skin and mucous membrane, dividing the elevator of the lid excepting three or four millimeters of the middle portion, turning the anterior surface of the fibro-cartilage backwards and closing the wound by tying previously introduced silk mattress sutures from the conjunctiva through the skin border at the cilia. It makes a very efficient entropion operation. His ptosis operation consists of doing a resection of the elevator of the lid. It produces a beautifully executed cosmetic and functional result. In performing his strabismus operations Blascovics does not hesitate to excise 11 to 12 mm. of tendon. His method of advancing the attachment of the muscle by forming a groove in the sclera to which the tendon is fixed, is unique.

In Prague we visited the clinic of Professor Elsching than whom no greater exponent of ophthalmology lives. Prague is situated in the heart of a beautiful country which promises to be one of the most prosperous and enterprising states of Europe. It is a very interesting old town, quite different from any town which I visited in Europe. We discovered December the worst possible time to visit this city for the weather was cold and wet and the inadequate hotels did not encourage us to prolong our visit. There are two universities in Prague, one German and one Czech and Prof. Elsching holds the chair of ophthalmology in the German university. He is a very learned man and one who has accomplished great things in eye diseases and is in my opinion the incarnation of modern German ophthalmology. He is painstakingly careful and thorough, an intense student, an indefatigable worker, wide awake to every source of knowledge and an excellent teacher and operator. That he is a first class clinician also, we learned in a very short time. That his staff co-operates with him and that his methods are so thoroughly designed and executed, is demonstrated by the fact that he does not hesitate to operate both eyes for cataract at the same sitting. That he is a great teacher, the world knows. Like all the clinics which we were privileged to visit, we received here great cordiality and assistance at every move. The men in this clinic were anxious to go into great detail in the explanation of their methods, clinical and operative, and were much more polite and painstaking and manifested a much more friendly spirit than we would have experienced in our own American clinics. If we failed to understand what was shown us in these clinics, it was not through any lack of effort on the part of the staff to make us understand and to help us. When we remember that so much of this occurred in countries with which we were recently at war, it cannot fail to

make us appreciate the fact that there is a brotherhood in medicine which delights in keeping alive the old Hippocratic spirit.

DISCUSSION.

Dr. Victor C. Smith (New Orleans): I had the pleasure of making part of this trip with Dr. Blum and, as he states, our reception in the various clinics was in every instance quite cordial. English is spoken by nearly all the chiefs. When at times it was not easy for them to explain in English what they wished to say, there was always an assistant who could speak English very well and who freely and willingly explained the operations.

The clinics seem to be better equipped with diagnostic instruments than the American clinics, and this applies to all clinics we visited. These clinics are more spacious than ours, and their patients are much more submissive. The medical and non-medical assistants seem to take great pride in their work and usually have been attached to the service for years. This of course makes the work faster, smoother, and more satisfactory in every detail.

In our clinics we often have a scarcity of medical assistants, and the non-medical assistants are frequently changed every two or three months, which makes the surgical work rather slow at times, and often very unsatisfactory.

Three facts stand out in the cataract surgery of European clinics:

First: That they operate on cataracts that are not mature.

Second: That they nearly always try to have a large conjunctival flap.

Third: That they rarely put the patient in bed after the operation and in most instances allow the patient to walk out of the operating room.

I believe their results are about the same as ours.

There is no one method of sterilizing pointed eye instruments which is apparently 100 per cent efficient, as is illustrated by the many different methods in use. The denaturing solutions used with alcohol often affect the edges. The use of high melting point iols is now being extensively used in this country.

The value of a smear and culture depends not so much on a totally negative finding as upon the quantity and kinds of organisms found. We must not forget that a few staphylococci are found in the conjunctiva of practically all normal eyes.

Retrobulbar injection for local anesthesia is one of the more important advances in ophthalmic surgery and properly used does not increase risk of operation. For the cleansing of skin of lids and the lashes, 5 per cent iodin or other solutions is more frequently used than in America. The almost identical end results lead one to believe this is rather a minor detail.

Of the various methods of immobilizing the eye, ocular fixation by forceps or suture through the superior rectus tendon has been especially developed and is extensively used by European ophthalmic surgeons. In a discussion with one of the assistants at the Elschuz Clinic, he told me that they never use cycloplegia. The speculum of Blascovics seems to hold the lids away from the eyes, but in a deep set eye it would interfere with the incision; the lids are so far forward it would be difficult to keep the knife away—nevertheless, it is a very ingenious instrument.

In a discussion of surgical methods used abroad, we must not lose sight of the fact that many variations of technic which are advantageously used in foreign countries are relatively impracticable in the hands of American ophthalmologists. This is proven by the fact that our visual results compare most favorably with those obtained anywhere in the world.

THE DIFFERENTIAL DIAGNOSIS OF HEMOLYTIC JAUNDICE.*

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NEW ORLEANS.

The term "hemolytic jaundice" may be defined as a jaundice or pigmentation pertaining to a degeneration of the blood. As a name for a symptom complex or disease it specifically designates a condition in which there is a congenital or acquired abnormality in the structure of the erytrocyte whereby these corpuscles are more prone to destruction by the normal scavenger cells of the reticulo-endothelial system, resulting in anemia, pigmentation of the epithelium, enlargement of the spleen, debility, weakness, and death from some intercurrent disease made posssible by the generally lowered resistance of the patient.

*Read before Louisiana State Medical Society, April 26-28, 1927.

For a modern and complete review of the acquired type of this condition which was first described by Hayem in 1898[1] we would call attention to the book written by Drs. Pearce, Krumbhaar and Frazier on "The Spleen and Anemia."[2]

While there may be some doubt as to whether the increased fragility of the red corpuscles is more to blame than an increased destructive action by the endothelial cells of the splenic sinuses, it has been definitely demonstrated that a prompt alleviation of the symptoms follows the removal of the spleen, in which the greater portion of active blood destruction occurs. While there is some increase in this function on the part of the remainder of the reticulo-endothelial system following splenectomy the gross symptoms of the disease do not recur.

We have personally been able to observe the almost complete relief of the anemia in several operated cases, and have been thus stimulated to draw attention again to this disease, and further to point out the unfavorable results obtained by the ordinary medicinal measures directed toward a "stimulation" of the blood forming organs in a condition in which the bone marrow is already overworked in an endeavor to keep up with the increased destruction.

Hemolytic jaundice may apparently occur in two types—the chronic "familial hemolytic jaundice," and the more severe "acquired hemolytic jaundice." The typical clinical picture of acquired hemolytic jaundice may be exemplified in the following cases:

Case No. 1. Mrs. McC., aged 45 years. The patient came under observation in January, 1926.

Following the usual diseases of childhood she contracted yellow fever at 18. She was married the same year, and has borne six children. When 23 years old she suffered with a severe metrorhagia for two months. She contracted influenza in 1918, since which time she has complained of general ill health, pain in the right arm, palpitation of the heart and inordinate bleeding from the uterus. In 1925 radium was applied in the uterus followed by a complete cessation of periods, but with no relief with regard to her general condition.

During the past year she has lost 25 pounds in weight, has had a constant attack of sore mouth, muscular cramps at night, occasional periods of loose bowels, and marked dyspnea on exertion. Her present weight is 125 pounds.

The physical examination shows a yellowish skin and sclerae. The face is wrinkled, the skin being dry. The blood pressure is systolic, 132; diastolic, 80. There is a soft systolic blow over the cardiac area. The lungs are normal. The spleen is enlarged to at least 3 times the normal size and is easily palpable. The liver is 4 centimeters below the costal border in the mid-clavicular line. The uterus is normal by vaginal examination. The reflexes are sluggish.

The blood shows the following: Erythrocytes 3,280,000. hemoglobin 29 per cent; color index, 0.44. Marked anisocytosis and poikilocytosis, moderate polychromatophilia and slight stippling. Hemolysis began at 0.42 per cent saline, and was not complete at 0.32 per cent. The platelets are normal. No malaria plasmodia were found. The leucocytes were 1750, with small mononuclears, 27 per cent, neutrophiles 71 per cent, eosinophiles 1 per cent; and basophiles, 1 per cent. The Wassermann reaction was negative.

The urine was normal, showing no urobilin or urobilinogen. The feces contained no parasites, but the meat remains were excessive.

Diagnosis: "Hemolytic jaundice" based on the findings of enlarged spleen, hematogenous jaundice increased fragility of the blool cells, an anemia with a low color index and evidence of blood production by the presence of polychromatophilia (basophilic staining cells, which are indicative of "newly" formed cells).

Splenectomy was advised and refused. A transfusion of blood was accepted. Following this, and with iron, arsenic and diet she gained 22 pounds in weight during the subsequent few months.

CASE NO. 1
Mrs. M. McC. Age 45 years

	Jan. 1926*	Dec. 1926
Erythrocytes	3280000	4675000
Hemoglobin	29%	49%
Color index	0.44	0.53
Anisocytosis	Marked	Marked
Poikilocytosis	Marked	Marked
Nucleated reds	None	None
Polychromatophlia	Moderate	Marked
Stippling	Slight	Slilght
Fragility of reds	0.42 to 0.32%	——
Platelets	Normal	——
Leucocytes	1750	——
Wassermann	(——)	——

*During this interval one transfusion was given, + full dosage of iron and arsenic.

In December of 1926 the blood picture showed 4,675,000 erythrocytes, with 49 per cent hemoglobin, and a color index of 0.53, and with the same abnormalities in morphology and staining reaction. The spleen had apparently decreased slightly in size. The general condition was about the same as when she was first seen.

Case No. 2. Mrs. P., aged 38 years, first seen in consultation in April, 1921.

There were no serious illnesses recalled during childhood or adolescence. She was married at 20, and has given birth to three children with one miscarriage. At 34 she contracted diphtheria followed by a phlebitis of one leg which lasted for one month, since which time she has felt fatigued constantly and has had frequent headaches. She has lost 25 pounds during the past 6 months. Her present weight is 117 pounds.

The physical examination revealed a noticeably yellowish discoloration of the skin. There were signs of old tubercular scarring of the right lung apex. The heart was slightly enlarged, but with no murmurs. The blood pressure was systolic, 115; diastolic, 78. The liver and spleen were both palpable.

The erythrocytes were 4,480,000, hemoglobin, 65 per cent, color index, 0.73. There was marked anisocytosis and moderate poikilocytosis, but no polycromatophilia was noted. The leucocyte counts were normal. The urine was found to be normal.

One apical tooth abscess was treated by removal of the tooth, and the patient was placed on iron and arsenic by mouth.

In October, 1921, a gain of 5 pounds in weight was reported. There was some little general relief of symptoms.

An operation on the cervix for laceration, and the removal of a small fibroid was performed in March, 1922, and she became pregnant two months later.

In November, 1922, during the sixth month of gestation, the blood examination showed the following: Erythrocytes, 3,130,000, hemoglobin, 43 per cent, color index, 0.69. Anisocytosis and poikilocytosis were present. There was also marked polychromatophilia, but no nucleated erythrocytes. The leucocytes were 1,175, 80 per cent of which were neutrophiles.

With a blood pressure of 85 mm. of mercury systolic, a soft blow at the apex, the above history and the present physical appearance of the patient a therapeutic abortion was strongly urged and was refused. The pregnancy was carried through to a successful termination.

In July, 1923, the general picture was as follows: Erythrocytes, 3,400,000, hemoglobin, 40 per cent, color index, 0.59. Some anisocytosis and poikilocytosis. Slight regeneration only was noted in the small amount of polychromatophilia. The leucocyte count was normal. The blood pressure was systolic, 106; diastolic, 64. Her weight was 112 pounds.

With intensive treatment of iron, and hypodermics of cacodylate of sodium the blood count by November, 1923, was the following: Erythrocytes, 4,245,000, hemoglobin, 31 per cent, color index, 0.36. Marked anisocytosis, poikilocytosis and polychromatophilia were present. The fragility test showed a beginning hemolysis at 0.48 per cent saline, and not quite complete hemolysis at 0.20 per cent. No nucleated erythrocytes were found. The leucocyte count was normal.

The spleen was now easily palpable. The diagnosis of hemolytic jaundice was stressed, and an operation for the removal of the spleen was urged. This was refused by the patient.

The iron and arsenic were continued and in September, 1924, with a weight of 114 pounds, marked dyspnea and fatigue on the slightest exertion the following blood picture was obtained: Erythrocytes, 4,430,000, hemoglobin, 39 per cent,

CASE NO. 2
Mrs. P. Age 38 in 1921

	April, 1921	November, 1922	November, 1923	September, 1924	March, 1925	November, 1926*
Erythrocytes	4800000	3130000	4245000	4430000	3650000	4490000
Hemoglobin	65%	43%	31%	39%	——	54%
Color index	0.73	0.69	0.36	0.44	——	0.61
Anisocytosis	Marked	Marked	Marked	Marked	——	Marked
Poikilocytosis	Moderate	Marked	Moderate	Moderate	——	Moderate
Nucleated reds	None	None	None	None	——	None
Polychromatophilia	Slight	Marked	Slight	Marked	——	Marked
Stippling	None	None	None	None	——	None
Fragility of reds	——	——	0.48—0.20%	——	——	——
Platelets	——	——	Normal	——	——	——
Leucocytes	——	1175	——	——	——	4250
Wassermann	(——)	——	——	——	——	——

*During the above period one transfusion as well as many forms of iron and arsenic were given. Various special diets were also of no value.

color index, 0.44. Anisocytosis, poikilocytosis and polychromatophilia were present. The leucocytes were 4,250, with a normal differential count.

In March, 1925, the erythrocytes had dropped to 3,650,000, and in July a blood transfusion was given to check the extreme weakness. This was followed by a severe reaction with fever for one week and then a gradual improvement in her general condition.

When last seen, in November, 1926, the blood count was: Erythrocytes 4,490,000, hemoglobin, 54 per cent, and color index, 0.61.*

Both of these patients present the definite symptom complex of hemolytic jaundice, i. e., anemia, hematogenous jaundice, spenomegaly, secondary type anemia, increased fragility of some of the erythrocytes with an increased resistance to hemolysis by the young cells present, evidences of blood formation, and no repsonse to medication which ordinarily affects the production of erythrocytes or hemoglobin. Gastric analysis in these cases showed the presence of free hydrochloric acid.

The diagnosis of hemolytic jaundice is differentiated from somewhat similar conditions for the following reasons:

Pernicious anemia is characterized by a high color index, megalocytosis, evidence of achlorhydria, apparent non-production of blood, and no splenomegaly.

*(Nov. 4, 1927.) Case No. 2 had to be transfused again in October on account of increasing anemia and general debility.

Chlorosis shows much the same blood picture with the exception of a normal fragility test and a ready response to iron.

Banti's disease presents a greater enlargement of the spleen followed by liver enlargement and ascites. Hemorrhages from the gums, stomach and kidneys are more marked. There is no jaundice or altered fragility of the erythrocytes, and the anemia is seldom quite as marked.

Malarial splenomegaly can only be diagnosed by the finding of the parasites during one of the frequently recurring paroxysms of fever. This condition is certainly extremely rare and presents very little difficulty in its exclusion.

Hodgkin's disease, when primary in the spleen, may present a very similar clinical picture. There would, however, be an absence of much evidence of active reproduction of erythrocytes and a normal fragility test would be obtained.

Thrombopenic purpura with splenomegaly would show the definite reduction in blood platelets during the active hemorrhagic stages.

The usual severe secondary anemias following typhoid fever, pneumonia, acute rheumatic fever and dysentery all give a very sallow complexion or anemia, and occasionally a palpable spleen—but in these conditions the etiology of the process is usually evident and there should be no confusion.

CHART NO. 3

Important Differential diagnostic features of:

	Ac. hemolytic jaundice	Pernicious anemia	Chlorosis	Banti's	Hodgkin's
Anemia	Moderate to severe	Marked	Moderate	Moderate	Slight
Color index	Low	High	Very low	Low	Normal
Fragility	Increased	Decreased	Normal	Normal	Normal
Jaundice	Present-hematogenous	Very rare	None	None	None
Young reds in circulation or evidence of blood production	Present Polychromatophilia Reticulated reds +	Noticeably absent except during remissions	Slight	Slight	None
Splenomegaly	Moderate	None — Diminished	None	Enlarged	Enlarged
Achylia	None	Always present	None	None	None

In conclusion we would like again to emphasize that all cases of severe chronic anemia, especially with splenomegaly or with marked evidence of blood production as shown by moderate or marked degrees of polychromatophilia in the stained blood smears, be carefully differentiated by all clinical and laboratory means with the hope that a diagnosis of hemolytic jaundice can be secured and surgical treatment instituted early enough to forestall the years of miserable existence of these persons as portrayed by the two case histories here presented.

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DISCUSSION.

Dr. A. A. Herold (Shreveport): This condition I believe is comparatively rare, although in the past we may have made the mistake of diagnosing some cases at Banti's disease or splenomegalia.

It seems that the essential points, so far as we can learn, are vulnerability of the red blood cells to hypotonic saline and a jaundice, the symptoms of marked secondary anemia, low color index, polychromatophilia and poikilocytosis.

I don't know that there is a thing I can add to the diagnosis except what Dr. Elliott brought out. It ought to be comparatively easy to distinguish it from pernicious anemia. I think the fine point is when you distinguish it from such conditions as Banti's disease and other marked secondary anemias.

I know we all feel that Dr. Elliott's paper is very timely because it will keep us on the lookout for such conditions which can be remedied, provided they are diagnosed early enough.

Dr. J. H. Musser (New Orleans): I enjoyed very much indeed the opportunity of hearing Dr. Elliott's paper. I thought at first, from the title of his paper, that he was going to discuss the acute types which are represented by an increased destruction of the red cells such as we see most typically in acute bacterial endocarditis.

As I see it, I think there are really two different types of disease which exhibit very much the same phenomena. In the familial type, for example, I think that, just as Dr. Elliott has brought out, there is undoubtedly some disturbance of function of the spleen. In the secondary type, whether the spleen is overactive or not, whether it is destroying the red cells more rapidly or not as a result of inherent function of that organ, or whether it is because of the increased fragility of the red cells, it is quite possible that the spleen is simply overfunctioning and does not have an inherent dystrophy as it does in the familial type. For that reason I am rather of the opinion that the two diseases are not essentially the same, although the spleen plays an important part in the manifestations of the disease.

Of some value in this condition, of course, is the estimation of the amount of bile in the serum. I think of particular value, which Dr. Elliott did not stress, is the increased number of so-called skein forms of the erythrocytes. I happened to pick up last night an article reporting on some other condition. The author mentioned a case of hemolytic jaundice in which the highest figures he had seen at any time for this particular cell were present.

The fragility of the red cells, as Dr. Elliott pointed out, is sine qua non for the diagnosis. I quite agree with Dr. Elliott that this first case probably represents a case of hemolytic jaundice. I think that the low level shows an appreciable reduction in the resistance of the red cells and I think in conjunction with the clinical findings it is only fair to consider this case a case such as Dr. Elliott has done.

The increased fragility of the reds occurs, of course, not only in hemolytic jaundice, but in other conditions, but there is usually not very much difficulty in making the diagnosis. Incidentally, I think that it was Dr. Elizabeth Bass who has told me that there is a family in New Orleans in which there occurs true familial jaundice. Some members of the family exhibit very beautifully indeed a persistent jaundice, which is apparently this typical inherited dystrophy.

Dr. W. S. Kerlin (Shreveport): I can't add anything to what has already been brought out in connection with the diagnosis of hemolytic jaundice. Dr. Elliott mentioned the fact that in the splenomegalies the association with malaria, that it, the demonstration of the malaria organisms was rarely ever observed. I believe that to be true, but about six months ago we had occasion to observe a case in the Charity Hospital at Shreveport, a little boy about three years of age with a typical syndrome of myelogenous leukemia in which the blood showed a fairly good number of the ring form of parasites with about, I think a total count of 100,000 leukocytes, with a typical differential count of quite a large percentage of myelocytes in the blood. I just mention that case for Dr. Elliott's information.

Dr. J. A. Crawford (Lake Charles): I want to say that just at present I have in my charge a baby that came to me when it was a month old. I examined it and wrote down an absolutely normal child. At two months old my partner examined it and wrote down possibly enlarged spleen. At three months the spleen was definitely enlarged. That mother then gave me the history. I had seen, forgetting it, in a clinic here, a child about five years ago that died of enlarged spleen and I don't know the diagnosis. About two years before she had a child die in the Charity Hospital with an enlarged spleen and the diagnosis was splenomyelogenous leukemia. I looked up the record and it did not look like that from the blood count.

I saw the second child and diagnosed it as hemolytic jaundice. I did not have the test made on the increased fragility of the red blood cells. This child I am now seeing in the clinic is about six months old, has the blood count, the white cells varying from ten to twenty thousand, the differential count practically normal, has many reticulated red cells, acidosis and fever. Both of them were .3½ to .3, which would be against hemolytic jaundice, but she has lost two children from that and the third one will go and she has not given authority to have a splenectomy performed.

Dr. J. B. Elliott (closing): The sole object of making this report was the fact that Dr. Johns and I feel that patients are being treated with iron and arsenic and transfusions that should be operated upon. In other words, Banti's disease and this disease of jaundice should not be treated by the physician, they should be turned over to the surgeon and the spleen removed. That is the only way to cure. Otherwise they drag along five or six years and sometimes eight years and they are not well and are carried off by any inter-current diseases. When you make the diagnosis, please don't wait; have the spleen taken out and discuss the case later.

Dr. Allen Eustis (New Orleans): Before Dr. Elliott sits down I would like to ask one question. In advising operation would his hemoglobin percentage be a guide to advise prompt operation with as low a percentage of hemoglobin as thirty per cent?

Dr. Elliott: When you see a patient gradually going down hill; see a patient treated with different hypodermics and getting a little better and then going down again; dragging along from year to year; you must do something for his condition. We have a case on hand right now. Four months ago Dr. Maes tried to take out the spleen but couldn't get it out, it was so adherent, and even though he couldn't take it out entirely that man has improved a little bit. I saw a case, in the past year, of Banti's disease brought to the office with hemorrhage from the stomach and hemoglobin down to nineteen per cent. We gave the boy two transfusions and operated. That was last year and you should see that boy now. In other words, you have got to run some risk with these cases. They are going down hill and are going to die or be carried away by chronic disease of the liver and kidneys after a long period of misery. Run a risk on the patient though the hemoglobin is a little low and operate.

REVIEWS

THE ROLE OF LIGHT IN PHYSIOLOGY AND PATHOLOGY.

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Those interested in the biological action of radiation (ultra violet, visible and infra red) are often discouraged because of inconclusive or conflicting results, and above all because of an inability to more than hint at plausible reasons for the reactions obtained on normal and abnormal animals and men. The physiologist, however, is not alone in this. A reading of the literature dealing with the "chemical action" of "ultra violet rays" impresses one with the need of more research on even the simplest reactions and there are but few instances of photochemical effects where the physical process is understood. Furthermore, as Haberlin and his co-workers (1923) have pointed out, the lack of agreement between practical or therapeutic results on the one hand and scientific or experimental on the other is due to the fact that the experimental observations have been made for the most part on healthy men and animals and the practical or therapeutic results have been obtained on diseased persons. The sick organism is a much more

delicate mechanism than the well, there being considerable evidence to show that diseased tissue is more susceptible to radiation than normal, while the animal skin is an entirely different organ from the skin of man.

It has long been recognized as a commonplace fact that the health of human beings is affected by sunlight and that the effect is not due merely to the heat of the sun's rays. The summer exodus from the town to the hills and the seashore, and the migration for a period of the dark winter months, by those who can afford it, to the sunshine of the hills or the coast is at bottom an expression of a natural instinct to seek the life-giving rays of the sun.

Industrial developments during the 19th century tended to deprive people of sunshine. During this period the progress of civilization, which was due to the invention of mechanical devices rather than to increased wisdom in the art of living, was such that an increasing proportion of both working and leisure time is now spent indoors. Even out-of-doors in industrial areas the smoke cuts off much of the sunshine and as we now know, it is especially effective in cutting off the wave lengths 290 to 330 millimicrons which are effective in rickets and in the production of pigment. (See, for example, Bundesen, Lemon, Falk and Coade, 1927). During the past few years an intense interest has developed in heliotherapy or curing by sunlight and the use of radiant energy, either from the sun or from an artificial source, has become an important branch of clinical medicine and a large amount of research work is being done to determine more fully the effects of these rays in health and disease and the best methods of producing and using them.

The results of exposure to the radiation of the sun, the C arc and the Hg arc in quartz are no longer in doubt. It has been established that light treatment is excellent for surgical tuberculosis and rickets and the effects on many other diseases show that we have in this therapeutic measure a powerful stimulant to general health and in particular of the defensive mechanism of the body against chronic infections. Skin diseases such as psoriasis, ichthyosis, eczema, and boils, chronic anemias of obscure origin, nutritional weakness and wasting in infants, chronic bronchitis and the fat flabby condition of the sedentary, over-fed, middle aged person, chronic phthisis, the debility following acute infectious disease, etc., are greatly benefited (Hill 1926), and the healing of refractory wounds of all sorts (gun shot, burns, frost bites) is accelerated (Bernhard, 1917, 1926). While darkness, particularly when the diet is adequate, seems to exert no detrimental influence over long periods of time (as evidenced by the physical condition of the members of polar expeditions, etc., and mine horses), the lack of intense daylight, if not of sunlight or of quartz lamp or carbon arc radiation, when the diet is even slightly unbalanced as to Ca, P, and the vitamines A and D, on general physical well being and nutritional condition is abundantly evident. It has been clearly demonstrated that the growth of animals and children on a diet badly balanced as to Ca and P (rickets, tetany) is benefited and that the absorption of Ca and P in the lactating animal is increased by irradiation but the physiological mechanism by which these results are produced is by no means established.

The curative action of such radiation in rickets and its beneficial effect in the treatment of surgical tuberculosis has led to the general conclusion that it might be expected to increase the resistance of animals and man to all infection. This conclusion is not materially supported by any experimental evidence. Although ultra violet radiation can cure and prevent rickets, this is a disease due to a dietary deficiency, not to an infectious organism, and other dietary diseases such as xerophthalmia and scurvy are not benefited by radiation (Hill and Clark, 1927).

Sonne (1922) believes that specific toxins (e.g., diphtheria) may be destroyed by virtue of the action of luminous rays in heating the blood to above fever temperatures (47° to 48° C in and below the skin), but Leonard Hill (1926) reports experiments by Hartley showing that light baths have not the least effect on specific immunity, although they do increase the general resistance of the body to infection by increasing the bactericidal power of the blood.

Pearce and van Allen (1926) have obtained definite indication of a relationship between the nature or character of light and the physical state and functional activities of animals under controlled conditions of light and have demonstrated that (1927) an environment of constant and continuous light, excluding the ultra violet rays shorter than 300 to 310 millimicrons, and of constant darkness influences the course and character of a malignant disease of rabbits induced by a transplantable neoplasm, (see also Pearce and Brown, 1927). In general the periods of maximum and minimum sunlight corresponding with summer and winter are associated with relatively low levels of malignancy while the periods of greatest malignancy occur at times of abrupt and rapid changes in the hours of sunshine coinciding roughly with the spring and autumn months. Brown and Pearce (1927) report that in rabbits innoculated with Treponema pallidum, in general, the efficiency of the reaction to the infection increases with the amount of light received and with the constancy of the exposure but that it is evident that changing conditions of light environment are a disturbing factor and may counterbalance the beneficial effects of the light itself.

C. M. Hill and Clark (1927) investigated the effects of quartz Hg vapor lamp radiation on the resistance of albino rats to a Pneumococcus I infection. They found no change in the erythrocyte or leucocyte count and while there was a consistent increase in platelets in all the irradiated animals there was no correlation between a high platelet count and subsequent resistance to a general infection with Pn. I. They conclude that the use of ultra violet radiation is not justified as a general therapeutic agent and that there is little to support the belief that it is capable of increasing natural resistance in normal individuals.

There is a general lack of appreciation of what radiant energy embodies, of how the radiation of the quartz lamp and of the C arc differ from that of the sun, of the importance of the intensity of energy, its duration of action, or its dosage. We can not always depend on the sun because, aside from its being often obscured, it is a variable star, so we must have recourse to artificial sources. Helio—and phototherapy must be based on a strong foundation of physics. It should be obvious that if we are trying to copy sunlight we should know something about it as well as about the energy emitted by artificial sources. Effects are sometimes attributed to ultra violet radiation when visible radiation is present. What effect may the latter have had? Often when screens are used it is assumed that the light as it appears to the eye is the only radiation present, but most screens transmit many wave lengths besides those seen. Such procedure is responsible for much of the confusion found in the reported results of the use of radiant energy.

Of the many available sources of the sun, the Hg arc in quartz, and the C arc burning solid or cored carbons filled with mixtures of rare earths are of practical importance. There is a common belief that the radiation of such sources is solely or mainly active because of the ultra violet fraction. This may be so, but it has been demonstrated in only a very few instances, such as the cure and prevention of rickets, and the formation of melanin in the skin. On the other hand there is much evidence that the effects observed are due to the entire spectrum. In some cases the evidence points to the visible portions as be-

ing particularly active (Sonne, 1921, 1926; Loewy and Dorno, 1925). In others the action of certain wave lengths in the ultra violet has been shown to be increased by the simultaneous action of the visible and infra red. The appreciation of this intensification of the action of ultra violet by visible and heat rays is demonstrated by the placing of a cluster of incandescent lamps around the hood of quartz Hg arc lamps.

The sun's spectrum is a continuous one. The shortest waves in the solar spectrum are about 290 millimicrons while the longest are about 5 microns, although there is very little energy beyond 2 microns. Solar radiation is often described as extending from 0.3 to 3 microns. Many artificial sources contain much shorter and much longer wave lengths. The spectrum of Hg vapor in quartz is discontinuous (strong emission lines on a background of a weak continuous spectrum) the shortest lines getting through the quartz and air being 185 millimicrons. The white flame C arc spectrum consists essentionally of two: a line spectrum from the metals added to the carbon (the radiation of the arc vapors) upon which is superposed the continuous spectrum of the incandescent positive crater. The spectrum of the snow white flaming arc extends in the ultra violet to 218 millimicrons, though most of the energy is at wave lengths longer than 290 millimicrons and to the neighborhood of 6 microns in the infra red.

Several methods for determining the amount and character of radiation from different sources are in use at this time. The most accurate is that combining the spectroscope and the thermophile or the pyrhiliometer. Other methods are based on various photochemical and thermometric reactions. In general these methods are cumbersome and inaccurate. But one, that of Clark (1924), wherein use is made of the effect of ultra violet light on lithopone, gives promise of practical value. Webster, Hill and Eidinow (1924) and Hill (1924) take the amount of bleaching of methylene blue in an acetonemethylene blue mixture in quartz tubes as indicative of the intensity of ultra violet. Pohle (1926) uses a method based on that of Bering and Meyer in which a solution of hydriodic acid in water frees iodin under the influence of energy. However, at present the thermoelectric method is the simplest accurate method available for use in the field under consideration. By this method radiant energy is transformed by a thermophile into electrical energy which is easily measured accurately (Mayerson, Gunther and Laurens, 1926).

Comparison between sources shows the importance of specifying the percentage distribution of the energy emitted. An air cooled quartz mercury vapor lamp has a percentage distribution about as follows: 30 percent ultra violet, 53 percent visible and 17 percent infra red. In the water cooled lamps the ultra violet equals the visible. The energy of a 28 Amp. flaming C arc is 15 per cent ultra violet, 59 per cent visible, and 26 per cent infra red. Sunlight at sea level contains from 1 to 4 per cent ultra violet, 42 to 53 per cent visible, and 57 to 43 per cent infra red. Sunlight on Mount Wilson contains from 2 to 5 percent ultra violet, 50 to 55 per cent visible, and 48 to 40 per cent infra red and on Mount Whitney, 3 to 6 percent ultra violet, 54 to 55 per cent visible, and 43 to 39 per cent infra red.

Owing to the fact that ordinary window glass absorbs wave lengths shorter than 320 millimicrons there have been developed in recent years, in imitation of quartz, a number of substitutes for window glass, letting through a considerable proportion of the ultra violet of sunlight. Some of these are the Corning glass G 980 A (clear), Vitaglass, Quartzlite glass, paraffin cloth glass, wire-mesh screen glass (celluloidinous material), etc.

There are indications that light can act in more than one way: it may inhibit pathologic processes or destroy pathogenic organisms, or it may conceivably promote

some of the bodily functions that are perhaps dependent on a stimulus from without. Irradiation, with the wave lengths that we are interested in, has two effects, stimulative or biologic and lethal or abiotic. In general the first is exerted by wave lengths to as short as about 290 millimicrons, the second by those shorter. Put another way it may be said that the longer ultra violet rays between 400 and 300 millimicrons do not produce the marked effects obtained from those shorter than 300 millimicrons. Finsen at first thought that the radiation with which he cured lupus acted as a bactericide. Later the question arose as to whether the radiation did not rather act as a stimulant to the tissues than as deadly to the bacilli. In the action of radiation we have two elements, a "photochemical" and a "biological" one. The photochemical effect ends with the production of dermatitis and its local effects; while the biological, the effect on circulation, metabolism, etc., may last for some time.

Hinrichs (1925) has briefly reviewed the various views as to the action of ultra violet radiation. It produces primarily a surface effect; it inhibits the action of hormones and enzymes; it kills protoplasm by coagulation and not by the inhibition of enzyme action; its effect is due to sensitization to heat; its action interferes with the time relations in a system of interdependent, progressive processes; its effect is due to the precipitation of the proteins of protoplasm following electron emission; certain constituents of protoplasm, as tyrosin and phenylalanin, act as optical sensitizers rendering living cells susceptible to the toxic action of ultra violet radiation. According to Petersen and Ottingen (1927) irradiation may act directly on the skin producing an increase in permeability, precipitation of cell proteins and changes in the lipoids which result in the production of cholin (parasympathetic stimulation); secondly it may influence the capillary endothelium and nerve endings; and thirdly it may directly affect the blood proteins. At one time there was considerable argument as to whether radiation could act directly on deep seated organs, and there are still some who believe that this is the case although the evidence is very strongly against it.

Sonne (1921) holds that the view that the therapeutic effect of the universal light bath is essentially due to the ultra violet rays is not sufficiently warranted. Based on the specific absorption relations of the "visible heat rays" during irradiation of the human skin the following theory is advanced; the curative effect of the universal light bath (arc lamp) is due to the capacity of the luminous rays to heat a very essential portion of the aggregate blood volume of the organism to a temperature possibly exceeding the highest ever measured fever temperature without causing the body temperature, owing to its heat regulating capacity, to rise to any measurable degree. The specific heat of this blood circulating in the organism acts as a curative agent.

Hill and his co-workers (1924) have conclusively demonstrated that melanin acts as an absorption screen and not as a sensitizer, the energy absorbed being converted into heat. By this conversion the sweat glands are stimulated and the moisture acts as a further protection. Owing to pigment the black man can have a thinner skin and so lose heat by convection more easily; he also is excited to more active sweating than the white man (see also Hausmann, 1923).

One view regards the various effects as due to chemical changes in the skin, which bring about influences on distant parts either by reflex action or by diffusion into the blood stream and transport to the parts affected. Cellular degeneration is a frequent sequel to irradiation of tissues, the degeneration consisting in various abnormal features appearing among the cells at differing times after irradiation. The changes in structure may be due to direct action upon the internal constituents of the

cell or to some interfacial action; Harris (1925), Hill (1924), Kroetz (1926). Lewis (1926) and Lewis and Zotterman (1926) have shown that the action of ultra violet radiation on cutaneous vessels like other agents such as freezing, burning, etc., which cause tissue injury, sets free in the skin vasodilator substances with histamin-like action which diffuse into the surrounding skin to be then conducted away by lymphatic channels. The vessels become dilated because they lose contractile power and are more or less irresponsive to vasoconstrictor substances and to histamin.

Rothman's observations (1923) go to show that the tonus and irritability of sympathetic nerves is decreased by the cutaneous inflammation, there being for some time after a reduction in blood pressure, decreased blood sugar, increased sugar tolerance, a decreased secretion of adrenalin, decreased blood Ca and a relative lymphocytosis and eosinophilia (see also Petersen and Ottingen, 1927).

Intestinal absorption certainly plays an outstanding rôle in the effects of radiation, Orr, Holt, Wilkins and Boone (1923, 1924), Telfer (1924, 1926), Grayzel and Miller (1927). During active rickets considerable amounts of Ca and P are absorbed from the bowel and re-excreted into it and irradiation prevents much of the abnormal re-excretion, as well as promoting absorption from the intestine. Park (1923) and Park, Guy and Powers (1923) point out that in animals on ricket producing diets it is obvious that the beneficial action of radiant energy and of cod liver oil is not limited to the rachitic processes. Their action is by supplying something which makes metabolism more efficient, causing the organism to operate with increased economy. They do not bring new processes into operation, but rather permit the organism to have full use of processes which are natural to it but not effective at the time.

The identity of the influence on Ca metabolism of exposure to radiation and the administration of cod liver oil is due to the fact that there are two methods by which the body may acquire the same "antirachitic factor," that by the action of light this substance can be formed either in the cells of the living creature or in its food stuffs and that many substances can be imbued with the antirachitic factor by exposure to radiation. Of more than usual interest is the demonstration that certain substances, inert in so far as antirachitic, bone calcifying and growth promoting power are concerned, may have these capabilities bestowed upon them by irradiation, Hess (1924), Steenbock and Black (1924). The fact that organs such as skin, liver, lung and muscle, as well as body products such as eggs, milk and feces also have calcifying and growth promoting properties imparted to them is a matter of scientific and clinical importance. That an animal when irradiated has constituents in its body affected in such a manner that they become antirachitically active has far reaching implications in connection with our ideas as to the mode of action of radiation, as has the fact that diets which are deficient in certain respects may be made complete by irradiation or by the addition of irradiated substances such as cholesterol. A list of the substances which have been activated includes the following: olive oil, linseed oil, cottonseed oil, corn oil, nut sterol, cholesterol, phytosterol, ergosterol, skin, dextrin, wheat, wheat flour, milk, milk powder, chicken mash, hay, spinach, lettuce, orange juice, and sawdust. Some of the things that have proven refractory to activation following irradiation are the following: a solution of chlorophyll, Hb, red blood cells, cream, oleic acid, egg phosphatide, mineral oil, casein and agar.

The question as to whether irradiation of the mother produces a protective quality which can be transmitted through the milk to the young or to other animals has received considerable attention, Luce (1924), Chick and Roscoe (1926) etc.

Hess, Weinstock and Sherman (1926) show that human as well as cow's milk can be thus activated. Hart, Steenbock, Scott and Humphrey (1927), however, report that ultra violet radiation is not, through direct impingement on the animal, a factor of consequence in the Ca and P metabolism of the dairy cow. The cow derives its antirachitic vitamine from the feed and is different in this respect from man, the goat, the chicken and the rat, all of which can be favorably influenced directly by the short wave lengths of solar radiation.

The work on the activation of food stuffs as well as of animal tissues and organs (skin, liver, etc.) points to a possible mode of action through the intermediation of an active substance which circulates in the blood stream. The epidermis contains a large amount of cholesterol in its deeper layers in close approximation to the prickle cells, and Hess, Weinstock and Sherman (1925) have shown that human and calf skin can be antirachitically activated by quartz lamp irradiation. The presence of cholesterol and its derivatives in the skin and its fatty secretions, together with easy absorption by the skin of fats rich in cholesterol, point to the conclusion that a vitamine activated in the skin by radiation is absorbed by the blood stream.

In the activation of cholesterol the changes depend on the presence of the double bond—of the unsaturated carbon linkage. The importance of the secondary alcohol group in the sterol molecule in connection with activation has been demonstrated although the alcohol group does not have to be intact and may be replaced by certain acid radicals. (Bills and McDonald, 1927).

Ergosterol (an optically active sterol possessing three double bonds and a hydroxyl radical), a recently discovered product of great potency, is, in all probability, the naturally occurring parent substance of vitamine D. It, of all sterols irradiated and tested for antirachitic power, is the only one which acquired antirachitic activity (Hess and Windaus, 1927; Rosenheim and Webster, 1927). Hess and Windaus report that when irradiated with a quartz Hg lamp it has antirachitic action when as little as 0.003 mg. per capita is fed to rats. Approximately 1 mg. of cholesterol is needed to initiate healing.

In connection with the activation of skin cholesterol recent work showing that the efficient agent can be absorbed otherwise than through the intestinal wall is of importance (see Soames, 1924; Garland, 1926; Kramer, Kramer, Shelling and Shear, 1927; Wilkins and Kramer, 1927).

It is extremely difficult to formulate any all-inclusive scheme of the action of light on living organisms. The effect of light for which we have explanations, based particularly on analogy with non-living substances, are either physicochemical or chemical in nature. Between the two there are many phenomena which are only explicable on the basis of a shift from one or the other of these two points of view.

One conception of the effects of radiant energy upon living matter is that the heat effect is due to increased molecular motion while the "abiotic" effect exerted by wave length shorter than about 295 to 300 millimicrons is due to direct atomic disintegration of the molecules with immediately resulting chemical changes. The effect of radiation of given wave length is directly proportional to the coefficient of absorption of the protoplasm for the wave length.

All radiation transfers energy to molecules which absorb it and produce heat, but certain frequencies fall into step with the oscillation periods which depend on the molecular structure and so break up the molecule when the energy absorbed is sufficient. The particular kind of radiation which produces this direct action depends on the character of the molecules.

Bovie and Hughes (1918) and Bovie (1922-1923) demonstrate that rays from

widely separated regions of the spectrum, provided their ability to penetrate the organism is such that similar parts are radiated, produce similar physiological effects regardless of the difference in wave length. In other words, it is the instability of the physiological mechanism rather than the wave length which determines the nature of the physiological effect produced. Bovie postulates, therefore, that the differences observed in physiological effects are due to differences in penetrating power rather than to any action specific for wave length. In the visible and ultra violet regions absorption depends upon molecular composition, in the roentgen and gamma regions, upon the atomic composition of the irradiated protoplasm.

Clark (1922) has given a theory of the action of radiation based on atomic structure, configuration of electrons, etc. The effect of radiation is due to the chemical changes which it causes. With simpler chemical substances light is seen to act as a powerful oxidizing and reducing agent and it may do so with the more complex chemical compounds in the living cells. All photochemical reactions are initiated by a change in configuration and velocity of the electrons of the substance absorbing the radiant energy. If the incident energy has small enough wave lengths to produce vibrations in the electrons, instead of in the molecules and atoms, the absorption of energy may result in the activation of electrons. The activated electrons may be ejected from the molecule as the result of absorption of energy, in which case the molecule is ionized; or they may be displaced to an outer orbit, in which case the atom or molecule is activated. In either case it will show altered chemical reactions. In a paper dealing with the coagulation of egg albumin Clark (1925) gives evidence that the changes in viscosity and surface tension are probably associated with a change in charge due to loss of electrons on irradiation, or with a change in state of aggregation or both. Saidman (1925) reports that a man loses a negative charge more quickly when irradiated with a quartz Hg lamp than when simply remaining in ordinary room light. Koenigsfeld (1921) and Hill (1926) likewise believe that the action of radiation consists essentially in the setting free of electrons which leads to a disturbance of cells and therefore also of the chemical equilibrium. The pathological action of radiation consists in the knocking down of the entire arrangement of the electrons so that their proteins attain an isoelectric state and coagulate.

But, even if the effects of irradiation are photoelectric, it is clear that radiation produces some substance or substances in the skin which eventually pass to the blood so that all the observed effects are the expression of photochemical change.

Some mention should be made of the action on the nervous system with particular reference to psychic influences as exemplified in the sensations of well-being. Sunlight is unquestionably one of the various factors having to do with the sensation of bodily and mental well-being. Striking results are also reported following irradiation with Hg and C arc lamps. Even after so mild a dose that there is no erythema there is a feeling of exhilaration expressing itself in the joy of work and of living, Hausmann feeling as if he had been on a mountain trip. Hasselbalch described his sensations following a two hour irradiation with a strong C are producing a marked erythema. Instead of the usual evening fatigue with frequent yawning he felt lively and indefatigable. The feeling of exhilaration and of desire and ability to work usually lasted two days, the "light mania" being followed by deeper depression than usual. Hasselbach suggests that the "light mania" may be a kind of immunity against depression. The action on the nervous system is evidently indirect and depends upon improvement in circulatory and metabolic conditions.

The nervous effects of an overdose of radiation, well known and personally

familiar to most of us, are accompanied by feelings of unrest, more or less vague apprehensiveness, sleeplessness, etc. In many these symptoms appear long before the erythema does. It should never be forgotten that too much radiation may be definitely harmful. A recent editorial in the Journal of the American Medical Association (1927) calls attention to a demonstration of this.

I feel that the view expressed by a clinician (Mayer, 1926) who has had considerable experience with solar and quartz lamp radiation is apropos and I am going to quote from a recent article of his (Mayer, 1927) which, although with reference to a particular condition, is applicable to others. "Light of any form by itself is not curative but comprises only one of the important adjuvants in the treatment of tuberculosis. To believe that sunlight or artificial sources of light will cure all forms of "surgical" tuberculosis, to be unduly optimistic about that treatment and to consider it a specific form of treatment; to use it without sound medical guidance and adequate equipment, and finally to employ it to the exclusion of rest and hygienic-dietetic regimen, eliminating orthopedic measures or the occasional necessary surgical intervention in bone and joint tuberculosis, is bound eventually to dishearten many sufferers and to bring discredit on an otherwise desirable method of treatment."

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CASE REPORTS AND CLINICAL SUGGESTIONS

UNUSUALLY LARGE FIBRO-ADENOMA OF BREAST IN TWELVE-YEAR OLD GIRL†

THOS. B. SELLERS, M. D.
NEW ORLEANS.

CASE HISTORY.

Complaint: Swollen left breast; lump in right breast.

†Read before Baptist Hospital Clinical Staff Meeting, October 1926.

F. H. Her parents living and well. There is no knowledge of tuberculosis, cancer, heart or kidney disease in the family None of the family have had eruptive lesions. The patient is the only child.

P. H. Patient's general health has always been excellent and development normal in body and mind. She is now in the 7th B grade of school. She has had measles and mumps in earlier years,

Fig. 1—Left Breast. Note glazed skin due to enormous enlargement; freely movable on chest wall.

and no other severe illnesses. Her right wrist was broken in a fall about 5 years ago; healing was satisfactory, function good. No other injuries. Tonsillectomy about 4 years ago. Has had very infrequent headaches, and occasionally toothache. Her appetite is voracious and the digestion entirely satisfactory. Her bowels are regular without medication.

Her menses have not begun and there has never been any sort of vaginal discharge.

P. I. In the early part of June, 1926, the patient noticed a firm lump in the left breast, much like the one now felt on the right side. This was not tender and showed no tendency to increase in size. About July 28 she was seen in Charity Hospital and admitted. A puncture of the left breast was done. Only a bloody discharge was obtained. There was never any discharge from the nipple. Late during her stay in the hospital (August), a piece of tissue was removed. The patient and her mother do not know of the report on this. Since that time the incision in the breast has never healed, and recently a "slimy" discharge has been noticed from the wound. It has been treated with a dark salve. Since the puncture and incision the breast has been increasing rapidly in size, but without pain or tenderness. Her general health is unimpaired. Her appetite is excellent. Within the past two weeks the patient has noticed a lump in the right breast of the same sort as appeared in July on the left side. There is no pain nor tenderness and no discharge from the nipple. The patient calls attention to the fact that the skin veins on the left breast have become much larger than previous to the present illness. Her mother states that the patient was born with a secretion of milk from the left breast, but that there has never been any since.

P. E. The patient is a colored girl of good development (12 years) and excellent nourishment, who walks into the hospital in perfect physical comfort except for the annoyance of an enormous breast. She is mentally alert and entirely co-operative, answering questions intelligently and promptly. She has no complaint aside from the much enlarged breast, and no other gross anomaly was observed. Except for a blowing systolic murmur loudest at the base of the heart, and occasionally heard at the apex, and the abnormalities of the breast described in detail, the physical examination is essentially negative.

N. B. In the right breast, which is very slightly large for the patient's age, there is a firm, discreet, mass-like induration in the upper half of the breast, not bound to the skin or the deeper tissues, not fixed to the nipple. The left breast is swollen to about eight times the size of the other and is discharging a thick, mucoid material from an ulceration directly anterior. The breast is almost spherical, freely movable from the underlying tissues, with the skin tightly stretched, showing many dilated veins over its

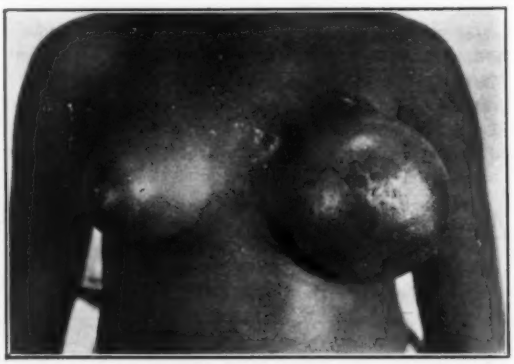

Fig. 2—Showing comparative size of two breasts. Left breast eight times as large as right.

surface. There are no points of fluctuation nor is tenderness elicited anywhere. No glands are palpated in the axilla.

Impression. Hypertrophy of puberty, with mild sub-acute mastitis superimposed. A fast growing neoplasm must be considered, but the general condition seems to eliminate malignancy in our thoughts. Wassermann reaction negative.

On September 24, 1926, the patient was admitted to the hospital, and on September 25, there was a radical removal of the right breast by Holstead incision. Glands in axilla were found to be enlarged and were removd by an extensive dissection of tissue in that area. The right breast was enlarged but was not removed on account of the patient's condition.

On October 4, 1926, a fibro-adenoma of right breast was removed under local anesthesia. The patient was discharged October 10, 1926, following an uneventful recovery. Fibro-adenomn of both breasts was shown in the final diagnosis.

ESSENTIAL THROMBOCYTOPENIC PURPURA*

B. G. EFRON, M. D.

Synonyms: Idiopathic Thrombocytopenic Purpura, Thrombocytolytic Purpura, Primary Purpura Hemorrhagica, Essential Purpura Hemorrhagica, Essential Thrombocytopenia.

The purpuras form a very interesting and as yet unfathomed chapter in medicine. A few entities have been isolated, and in these, at least a clinical interpretation has been reached. Some of the best understood are the thrombocytopenic purpuras.

Essential thrombocytopenic purpura is relatively rare, but within a week of each other two cases were admitted to the Touro Infirmary. These are presented here.

Case 1. Mrs. T. R., aged 76 years, white, residence New Orleans. Her chief complaint was swelling of the jaw. Three days previous to her admission to the hospital she suddenly felt fluid in her mouth, and upon expectoration discovered it to be blood stained; at the same time she noted a small mass inside of the left cheek. The next morning there was a large ecchymotic spot covering the right side of the face and neck. There was no pain.

P. H.: For the past thirty years she has been suffering from what she terms rheumatism; however close questioning revealed the fact that pain was in the feet, coming on after exertion and that the pain was not very severe. Swelling, redness, or stiffness never appeared about the joints. Her menopause occurred at 45 years and was uneventful except that she states she was "blind" for three weeks at its onset. She had had the usual childhood diseases.

Examination showed a rather well developed white female, advanced in years. Numerous purpuric spots covered various portions of the body. One, dark purplish in color, covered the skin over the angle of the mouth and jaw, and extended downward on to the neck. Numerous purpuric areas were present on the abdomen and the upper and lower extremities. They varied in size from that of a pin head to that of the palm of the hand, were neither painful nor tender, and did not disappear when pressure was applied. A mass, oval, brown, flattened from side to side, firm to the touch, occupied the area between the gum and the right cheek. It was sessile, and attached to the mucosa of the mouth.

The area of cardiac dullness was within normal limits, the apex beat, being neither seen nor felt. The heart rate was regular; the heart sounds were rather distant, and a soft systolic, untransmitted murmur was heard at the apex. The lungs were clear. The abdomen was relaxed, and no masses, tenderness or rigidity were noted. The liver and spleen were not palpable. The capillary pressure test was negative. *Laboratory Reports*: Urinalysis was negative except for a few pus cells. The total erythrocytes were 4,490,000, total leukocytes were 5,000, Hemoglobin 70 per cent, and the color index was .89. The differential count showed neutrophils 66 per cent, small mononuclears 28 per cent, and large mononuclears 6 per cent. The total non-protein nitrogen content was 33.3 mg. per 100 cc. blood, urea nitrogen 16.6 mg., creatinin 1.36 mg., uric acid 3.6 mg., and dextrose 103 mg. The carbon dioxide combining power was 50.3 per cent. The bleeding time—estimation showed that at 17 minutes the patient was still bleeding freely. The coagulation time was 3¾ minutes. Blood culture was negative for organisms. A blood clot was not retractile at the end of 28 hours. The platelet count (with Pratt's solution) was 50,000 per cu. mm.

Course: Because of the age of the patient an operation was deemed inadvisable. Two days after admission, a very large purpuric spot appeared on the right thigh. The same day there was bleeding from the gums. The platelet count on the following day was 90,000 per cu. mm. Within a week the ecchymotic areas were undergoing retrogression, no new purpuric spots having appeared; nor was there a recurrence of bleeding from the mouth, and at the time of discharge almost all purpuric areas had disappeared. The

*Read before clinical meeting, Touro Infirmary Staff, May 6, 1927, New Orleans, La.

platelet count during this period showed variations between 90,000 and 30,000. No relationship could be established between an increased number of platelets and the cessation of bleeding. On the day of her discharge from the hospital, the patient's count showed 30,000 platelets per cu. mm. The patient had no treatment whatever for the purpura. When seen one and a half months after the date of discharge, she was up and about, attending to her household duties. There was no evidence of purpura. The platelets at this time numbered 245,000 per cu. mm.

Case 2. Miss E. D., aged 21 years, white single, complained of bleeding from the gums, black and blue spots over the body, and weakness.

The present illness dates back three years; during which time she has noted blackish blue spots on various parts of the body. These were painless, could not be ascribed to trauma, and as a rule, gradually disappeared in two to three weeks. Bleeding from the gums first started seven months previous to present admission to the hospital and the black and blue spots persisted. At that time the hemorrhage was profuse, lasted three days, and caused her to become weak and exhausted. Then she became somewhat better. Two months before admission to the hospital she developed a very severe pain in the right iliac region. This pain radiated upward and culminated in twenty-four hours with general abdominal soreness. Numerous spots similar to those previously described appeared at this time, and have persisted to the present. A week later bleeding from the gums recurred and has continued since then. The patient was given four injections of horse serum in a Meridian, Miss. hospital; the last dose being given eight days ago.

Past History: She had pertussis at 10 years of age. At about 13 years of age she was confined to the bed for two months for "hip trouble", characterized by pain in the right hip and inability to walk; subsequently she was on crutches for two months. No other joints were involved at that time or later. She has not been troubled since then. She had malaria several years ago and influenza last year. Tonsillectomy was done in 1923, with no complications or sequelae.

Examination showed a very pale, emaciated, young white female. The pallor was waxy. There was bleeding from the nose. A continuous ooze was observed from the gums; the lips were covered with dry blood. She expectorated blood constantly. Numerous pin-head to pea sized purpuric areas were scattered over the back, arms and legs, as well as the face, abdomen, and chest. There were also a number of large ecchymotic areas present on the extremities, varying in color from dark brown to light yellow. A number of wheals were noted, located on the chest and abdomen. The lungs were clear. The heart was not enlarged, the sounds were fairly well heard and a soft, untransmitted, systolic mumur was heard at the pulmonic area. The abdomen was flat and the spleen was not felt. No tender areas or masses were noted. The capillary pressure test was positive. *Laboratory Report:* Urinalysis was negative. The total erythrocyte count was 2,-050,000, total leukocytes 8,250, hemoglobin 23 per cent, color index .41. The differential showed neutrophils 68 per cent, small mononuclears 22 per cent, large mononuclears 8 per cent, and eosinophiles 2 per cent. Some anisocytosis and poikilocytosis were present, but no megalocytes or normoblasts were noted. The platelet count (with Pratt's solution) was 100,000 per cu. mm. The bleeding time was more than half an hour. The coagulation time 3 minutes. The blood clot not retractile at the end of 30 hours.

Course: A transfusion of 500 cc. of whole blood was given. Despite the transfusion the bleeding from the gums continued. The platelet counts during this period varied from 30,000 to 45,000 per cu. mm. A week later splenectomy was performed by Dr. R. E. Stone after a preliminary transfusion on the previous day. The platelet count just before the splenectomy was 80,000 per cu. mm. The patient made an uneventful operative recovery. All bleeding stopped. Three days after operation the platelet count was 155,000 per cu. mm; within a week it rose to 240,000 per cu. mm. She was discharged apparently well.

Discussion: The nomenclature in purpura is very confusing, various names having been given to similar conditions, and the same name to entirely different conditions. The classification so often met with of Purpura Simplex, Purpura Hemorrhagica and Purpura Rheumatica is untentable. It is incomplete. There is no provision made for the important group of purpuras with thrombopenia.

A classification which may be adopted is as follows:

A. Thrombocytopenic Purpuras

1. Symptomatic or Secondary—

When occurring in the course of other diseases as:

- Aplastic Anemia
- Pernicious Anemia
- Benzol Poisoning
- Acute Sepsis, especially Diphtheria
- Miliary Tuberculosis
- Nephritis
- Lymphatic Leukemias
- Tumors of Bone Marrow

II. Essential or Primary

- a. acute
- b. chronic
  1. continuous
  2. intermittent

B. Non-Thrombopenic Purpuras:
1. Symptomatic or Secondary
When occurring in the course of other diseases, such as
Meningitis
Acute Bacterial Endocarditis
II. Idiopathic
a. Simple
b. Rheumatic or Arthritic
Schoenlein's disease
c. Visceral
Henoch's Purpura

The idiopathic non-thrombocytopenic purpuras are not sharply defined groups. Cases are seen in which all types are manifested in the same or in subsequent attacks. They are perhaps different forms of the same disease. They also appear to be closely related to such conditions as erythema multiforme, angioneurotic edema, and urticaria. The same patient may have all of these conditions. In this group hemorrhages occur particularly into the skin; bleeding from the mucous membranes occur rarely.

The chief pathological feature of the thrombocytopenic purpuras is the diminution of the platelets. The pathogenesis of these conditions has not been fully explained. The role of the platelet is still in dispute, some maintaining that it is etiological in causing the hemorrhages, others that it is merely an associated phenomenon. Both groups have equally good experimental evidence for their contentions. The role of the spleen and hematopoetic system in general is also shrouded in mystery; however, there is a suggestion that splenic activity and diminished platelet counts are closely associated in some way.

The chief difficulty in the proper understanding of the purpuras is that the process of blood coagulation is not fully understood. All workers in this field agree that the final step is the reaction between thrombin and fibrinogen to form the fibrin, but the steps preceding this are litle understood, and rest principally on theoretical grounds. That calcium is necessary for the reaction is also known. It is probable that only after coagulation is more fully understood will the pathogenesis of the purpuras be adequately explained.

Criteria for Diagnosis: The thrombocytopenic purpuras, whether primary or secondary, are characterized by:

1. Reduction of platelets. The normal counts by present methods average between 200,000 to 400,000 per cu. mm. It is to be noted that these methods of platelet counting are rather inadequate. The counts vary a great deal from day to day, and marked variations are encountered in the same preparations. In thrombocytopenic purpura the platelets usually vary between 0 and 100,000 per cu. mm.

2. Coagulation time is normal or very slightly increased.

3. Bleeding time is definitely increased. (Method of Duke was used).

4. Non-retractile clot. Retraction of the clot does not occur when platelets are greatly diminished. Cases, however, have been reported where non-retraction of the clot occurs when platelet count is supposedly normal.

5. Positive capillary pressure test. The application of a tourniquet, or the blood pressure cuff to arm, with the mercury set at midway between the systolic and diastolic pressure, produces within a few minutes, when the test is positive, small petechial spots below the level of application. In the cases reported here the capillary pressure test was positive in one instance and negative in the other.

Treatment: Transfusion is of great value in maintaining the general condition but almost all writers advocate splenectomy for the chronic type of essential thrombocytopenic purpura. Splenectomy yields uniformly good results in the chronic cases. In acute cases, the results have not been so encouraging. The mechanism by which removal of the spleen brings about at least a clinical cure has not been explained. Following splenectomy, the platelet counts are variously reported; some state that they remain high, others that the platelet counts return to the preoperative level, and yet the patient remains clinically well. Immediately after operation, the number of platelets in the circulation is usually increased.

DISCUSSION.

Dr. C. L. Eshleman: I had occasion to look up the records of Touro recently, and we have had only five cases of this type during the past three years. One of them was a case reported by Drs. Cohn and Lemann a year or two ago and the other four have come under my own observation. Of these five cases three had splenectomies done and all are well. One other was "cured" by medicine to correct headache and constipation. One other had eleven blood transfusions and died without splenectomy. This has been the result of the five cases. I believe that Whipple has done the most recent and extensive research on this particular disease. He has combed the literature and obtained the results in 81 cases. He has divided them into two types, the acute or fulminating and the chronic. In the fulminating type he believes that the disease is due to some disorder in the reticulo-endothelial system, that is the spleen, liver, lymph glands or any where this system is present. He contends that in these cases splenectomy is a failure because it is unnecessary to remove a spleen where the disease is directly due to the reticulo-endothelial system. Of these 81 cases, 8 were of this type. The mortality was 88.5 per cent. The

other cases were of the chronic recurrent type which after the removal of the spleen resulted in a mortality of only 8 per cent. He believes that so far as splenectomy is concerned this set of figures is the answer to the question of whether the spleen is the organ at fault or the reticulo-endothelial system. Transfusions do not seem to cure. They improve the patients and put them in a condition to make the splenectomy a less serious operation. The case which had eleven transfusions, I think should have been splenectomized. It certainly was of the chronic recurrent type and was in the hospital for two months and had transfusions from two different donors with no marked benefit resulting. Why he was not splenectomized I do not know, unless the family objected, as Dr. Cohn was very anxious to have it done and Dr. Lemann thought it should have been done and I was of the same opinion.

Dr. Randolph Lyons: All I have to say is this. Dr. Efron has made a very important suggestion. There is not much reference in the literature to this disease. I remember in the old days we used to call it purpura hemorrhagica and while there have been only five cases here I am sure the records of Charity will show a much larger number of cases. Three I have had in my own service. They were before the days of splenectomy. Two of these cases recovered spontaneously. I recall one in particular. Three injections of horse serum were given. This was injected in both sides of the abdomen. Hemorrhage took place where the needle went through the subcutaneous tissue. There are those cases that do well without any thing at all, but where no contra-indication exists splenectomy should be performed.

Dr. A. I. Weil: If there is no further discussion, Dr. Efron will you kindly close the discussion?

Dr. Efron (closing): With reference to the diagnosis, purpura itself is not a diagnosis. It is a symptom. Purpura hemorrhagica means hemorrhage into and from the mucous membrane. It does not designate whether a cause for the purpura is known. It should be abandoned as a term, or at least modified, so that the etiological relationship is stated. I wish to thank Drs. Maes and Eshleman for the privilege of presenting their cases and also the other members of the staff for their co-operation and discussion.

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Synthalin in Diabetes.—Synthalin has an action like insulin in so far as it appears to cause sugar to be stored and to be used. The German workers offer proof of this in animal experiments and clinical investigations seem to support it. Confirmation of the former is awaited with interest. Although it resembles insulin it acts very much more slowly, and is not nearly so consistent—large doses sometimes producing no appreciable effect and comparatively small ones occasionally giving rise to marked toxic symptoms, which, however, soon disappear on withholding the drug. The great advantage of the treatment is that it is taken by the mouth. Out of 13 cases tested, five seem to have done well so far, one fairly well, two uninfluenced, and five were unable to take an adequate amount of the drug without developing symptoms of poisoning.—Calvert, E. G. B., Lancet, Sept. 24, 1927, p. 651.

Fractures About Elbow.—Nathaniel Allison, Boston, points out some positive facts about elbow fractures which he feels should be the common property of practitioners of medicine. These facts are that: Elbow fractures imply: (a) bone injury; (b) nerve injury; (c) circulatory disturbance. Haste is not necessary. Roentgen-ray plates should show two views of the region. It is essential to have a rough estimate of the condition of the peripheral nerves and an accurate estimate of the condition of the circulation in forearm and hand. Treatment in simple fracture is simple—acute flexion, as a rule. The fracture must be reduced before it is put up. Due regard must be had for the circulation in hand and forearm. Difficult fractures at the elbow, when the joint is involved, when there is much comminuation or displacement, and when there is dislocation, require the utmost of surgical skill in a hospital for good results. In after-treatment, functional use should be allowed and exercise encouraged. Restoration of motion by "pump-handle" methods, when the stiffness is due to muscle spasm, is condemned.—Journal A. M. A., Nov. 5, 1927, p. 1568.

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PERIODIC HEALTH EXAMINATIONS.

The first week in the month of December the Orleans Parish Medical Society is staging a "Long Life Week", in which systematic endeavor will be made to interest the medical profession and more particularly the laity in the necessity of periodic health surveys. Because we feel that this effort should be heartily encouraged, the Journal is devoting considerable space this month to various phases of this particular action of the local organized medical profession. We feel also that periodic health examination is of sufficient importance, and should be of sufficient interest to the members of the profession throughout the State of Louisiana and the State of Mississippi, that attention again should be directed to the wisdom of such examinations. For the furtherance of this plan, several articles which have been contributed from four different sources are published in this current number, showing in part not only why the examination in general is advisable, but also the especial applicability in certain disorders of such examinations. The methods of health examinations are outlined by a Mississippi contributor. In addition to this outline, the Journal is reprinting a form supplied by the American Medical Association, which shows the simplicity of the examination, and which may be readily followed by all practitioners of medicine. More detailed information, as to the general diagnostic procedures, the advice that should be given to the patient and the findings in the thousands upon thousands of examinations already made, may be obtained from the book, recently published, writen by Dr. Fisk and Dr. Crawford.

It hardly seems necessary to emphasize to the medical profession the various reasons why health surveys are important. But despite the active propaganda which has emanated from various medical organizations, notably the American Medical Association, the average physician does not seem willing to encourage his clientele to come to him periodically for a yearly overhauling, nor does he himself in most cases set such an example. It is for this reason that we are willing to reiterate again and again the statement that periodic health examinations of his patients should be encouraged by every physician and incidentally performed upon every physician yearly or bi-yearly.

A CHANGE IN PERSONNEL OF JOURNAL COMMITTEE.

As will be noted on another page of this issue, Dr. Oscar Dowling, President of the State Board of Health, has, for reasons as stated in his letter to the president of the state society, seen fit to resign from the

Journal Committee. It is with profound regret that we chronicle this event, for Dr. Dowling is peculiarly well qualified for this position, which he has filled so acceptably ever since his appointment to membership on the first Journal Committee, by President Lester J. Williams; first, he was made chairman and it is due, in great measure, at least, to his foresight and keen business sense and executive ability, that the Journal has been able to make such long strides, both ethically and financially; it was he who always held out for the highest ideals in journalism and in accepting advertisements; having had previous experience in medical journalism, his advice was sought and always cheerfully given in all matters of policy.

Last year, when he was not very well, he asked to be relieved of the chairmanship and has since then always assisted Dr. Gessner and the committee in every way possible. The Journal formally acknowledges its debt of gratitude to Dr. Dowling and regrets to part with his services.

As the successor to Dr. Dowling, President Herold has very wisely seen fit to appoint Dr. S. M. Blackshear. The affairs of the Journal are not very new to Dr. Blackshear, he having been ex-officio member of the committee, while serving as president of the society in 1926-7 in addition, he became familiar with many pertinent matters, during his tour of the state with Drs. Fishbein and Gessner, last winter. The Journal congratulates itself that Dr. Blackshear has seen fit to accept the appointment, as it always feels safe in such conservative hands.

THE RADIOLOGICAL SOCIETY OF NORTH AMERICA.

The last of the past month and the first of this month has witnessed and will witness a gathering in New Orleans of a large number of physicians primarily interested in radiology. To these men and to their organization, the Radiological Society of North America, the New Orleans Medical and Surgical Journal offers warm greetings. It is the hope of the Journal that the enjoyment of the members of the Society in the excellent scientific program will be tinctured with the pleasures of the attractive old City of New Orleans.

The doctors of New Orleans, Louisiana and Mississippi are indeed fortunate to have this large organization meet with them. A glance at the program of the Radiological Society shows that over a hundred papers are to be presented, as well as many clinics. He would indeed be a remarkable physician who could not gain much knowledge from a program as broad in scope and as comprehensive as is the one prepared by the Chairman of the Committee on Scientific Business of this organization. Many of the local and nearby physicians have taken advantage and will take advantage of this wonderful opportunity to hear at first hand the leaders in many branches of medicine, not only from this country but from Europe as well. The City of New Orleans and the doctors of the surrounding country, particularly Louisiana and Mississippi are to be congratulated in having in their midst the old city, the fame of which attracts many large and prominent medical organizations to migrate here for their Annual Conventions.

Epidemiology of Rural Typhoid.—D. G. Gill, Montgomery, Ala., reviews the typhoid situation in Alabama, especially in small towns. He says that it is the small town and strictly rural districts that supply most of the cases. The highest rates occur in the towns with populations under 1,000, while 80 per cent of the typhoid occurs in the rural areas and towns with populations up to 5,000. Sanitation and water supplies are defective in this group. Typhoid carriers are common. Approximately 10 per cent of those who have had typhoid become permanent carriers, and are probably the source of most rural typhoid. —Journal A. M. A., Oct. 8, 1927, p. 1198.

TRANSACTIONS OF THE TOURO INFIRMARY STAFF

At the monthly Staff Meeting of the Touro Infirmary held October 12, 1927, the following papers were reported:

First: Metastatic carcinoma of the left Clavicle by Dr. Isidore Cohn; second: Carcinoma of the Transverse Colon, by Dr. D. C. Browne and Dr. Isidore Cohn; third: Absence of the Vagina with Double Uterus, by Dr. Temple Brown; fourth: An interesting case of Malignancy of the Abdomen, by Dr. A. B. Pitkin.

The first paper presented by Dr. Cohn was that of a patient operated on in 1925 for malignancy of the breast; radical operation was done and metastatic lymph glands in the axilla removed. Following operation the patient received deep X-ray therapy. She was apparently well until June 1927 when a metastasis to the left clavicle was found. Clavicle was removed and the patient was last seen in August, apparently well.

The interesting features present in this case were, the rarity of the metastasis to the clavicle from the breast carcinoma; the complete excision of the clavicle followed by an excellent functional result with little or no drooping of the shoulder; and third, the operative approach which consisted of an incision over the clavicle and along the anterior border of the sternomastoid at an angle of 60 degrees. This incision, with the reflexion of platysma and sternomastoid muscle gave an excellent exposure of the great vessels in the neck. In discussing this paper, Dr. Gessner told of a case of the removal of the entire clavicle with a good functional result.

The second paper, presented by Drs. Cohn and Browne, was that of a case in which the resection of the transverse colon was done for carcinoma. Following operation six months ago, patient has gained considerable weight and has had no return of previous symptoms.

The outstanding features in this case were marked emaciation, anemia and weakness produced by the relatively small carcinoma and the response to transfusion before operation. Dr. Cohn pointed out that the essential factor in the production of the anemias in cases of carcinoma of the colon is the presence of a large ulcerated area from which blood can ooze and through which bacteria can enter. It is to be remembered that carcinoma of the colon with the presence of a marked anemia has not the same contra-indication to operation as that of carcinoma of the stomach. The operation done was an end anastomosis following the technique of Kerr.

The paper presented by Dr. Temple Brown was that of a case of absence of the vagina with double uterus. The double uterus was found at an operation for chronic appendix. These two congenital anomalies found in the same patient are quite rare and it was interesting to note that the patient had no pelvic symptoms other than that she had never menstruated.

The last paper presented that of Dr. Pitkin was that of a case of carcinoma of the stomach discovered at operation. The correct diagnosis of this case was masked by a huge retro-peritoneal metastasis and the operation was an exploration. Metastasis of the gall-bladder, liver and lungs was also found.

WARREN L. ROSEN,
Secretary.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

During the month of November the Board of Directors has held its regular meeting, and the Society has held two Scientific Meetings.

At the meeting of the Board the routine business was taken up and dispensed with.

Dr. Loyd J. Kuhn was selected to Interne Membership.

At the Scientific Meeting held Monday, November 14th, the following papers were read and discussed:

"Subphrenic Abscess," by Dr. Alton Ochsner. In the absence of Dr. Ochsner, Dr. I. M. Gage read his paper, which was discussed by Dr. Jos. A. Danna and closed by Dr. Gage.

"Bichlorid of Mercury Poisoning per Vaginam," A case report. By Dr. Lucien A. LeDoux; discussed by Drs. J. F. Dicks, Adolph Jacobs, H. B. Alsobrook, J. B. Guthrie, A. F. Hebert, J. D. Rives, E. L. King and closed by Dr. LeDoux.

"The Kielland Forceps," by Dr. E. L. King; discussed by Dr. LeDoux and closed by Dr. King.

At the Scientific Meeting held Monday, November 28th, the following papers were read and discussed:

Moving Picture Film of: (a) Johannes Gad's Famous Experiment Showing the Action of the Heart Valves; (b) Howard Ruggle's Fluoroscopic Study of the Movements of the Human Heart; by Dr. George A. Herrmann.

"Cleft Palate: Its Treatment and Prognosis," by Dr. E. D. Fenner.

"Primary Sarcoma of the Spine with report of a case," by Dr. H. Theodore Simon.

At this meeting the Delegates to the Louisiana State Medical Society were elected, and the nominations of offiecrs for 1928 took place.

The attendance at both of these meetings was very gratifying.

During the past month the Committee on Periodic Health Examinations has been very active in launching a campaign to be known as "Longer Life Week" the week of December 5th to 10th inclusive. The members are asked to cooperate in this campaign to the fullest.

The Stanford Memorial Oration will be held on the 6th of December, Dr. M. G. Seelig of St. Louis being the Orator.

The Membership of the Society to date is 490 of whom 475 are active members.

REPORT OF TREASURER

Actual Book Balance, 9-27-27	$ 661.35
Receipts during October	$ 432.78
	$1,094.13
Expenditures	$ 744.39
Actual Book Balance	$ 349.74

REPORT OF LIBRARIAN

210 books have been added to the Library during October. Of these 172 were received by binding, 16 by gift, 6 by subscription and 16 from the New Orleans Medical and Surgical Journal. A list of new titles of recent date is attached. Gifts have been received from Dr. S. M. Blackshear, Dr. Waldemar Metz, Tulane University School of Medicine, Dr. J. H. Musser and Dr. Allen Eustis .

A meeting of the Library Committee was held October 27th, with a free discussion of work done and prospects of library advancements.

A bibliography on Medical Botany was prepared. The preparation of fewer bibliographies does not mean that the reference work has been less, but rather the contrary. The room reference work has been so heavy, owing to approaching medical meetings that the Assistant Librarian has had no time to formulate the various groups of material into lists. It has been all that one person could do to collect the actual references for use.

NEW BOOKS

Southern Surgical Association Transactions. 1926.

N. Y. Academy of Medicine—Catalog of an exhibition of early and later medical authorities. 1927.

Cullen—Early medicine in Maryland. 1927.

Keiller—Nerve Tracts of the Brain and Cord. 1927.

American Pediatric Society. Transactions. 1927.

Sarnoff—Human Body in Pictures. 1927.

Fishbein—New Medical Follies. 1927.

Sutton—Tiger Trails in Southern Asia. 1926.

Faber—Lectures in Internal Medicine. 1927.

Waite—Saving Eyesight After Midlife. 1927.

Deutsch—Heart and Athletics. 1927.

Cabot—Physical Diagnosis. 1927.

Theobald—Normal Midwifery. 1927.

Burnet—Diseases of the Newborn. 1927.

Medical Society of the County of Kings—Practical Lectures. 1927.

Rudolf—Therapeutic Malaria. 1927.

Malcolm-Smith—Examination of Urine. 1926.

Rundle—Ker's Manual of Fevers. 1927.

Drueck—Fistula of the Anus and Rectum. 1927.

Jackson—Bronchoscopy and Esophagoscopy. 1927.

Webb—Recovery Record. 1927.

H. THEODORE SIMON, M. D.,
Secretary.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

DR. DOWLING RESIGNS.

November 5, 1927.

"Dr. A. A. Herold, President,
Louisiana State Medical Society,
Ex-Officio Member N. O. Med. and Surgical Journal,
Shreveport, Louisiana.

Dear Doctor Herold:

It is approximately eighteen months since I asked, through you, to be relieved of the chairmanship of the Publication Committee of the New Orleans Medical and Surgical Journal. Since then I have given the best there was in me to the committee under the intelligent leadership of Dr. H. B. Gessner. Being frequently absent from the city and because of the difficulty experienced in attending meetings, and further feeling you can name some one as well or better qualified for the position, I am asking that you accept my resignation and name my successor at your earliest convenience.

Rest assured of my continued good wishes for the prosperity of the Journal with the hope the day is near at hand when every eligible physician in Louisiana and Mississippi will be enrolled among their respective memberships and regular readers of the Journal, I am,

Cordially and fraternally yours,

(Signed) OSCAR DOWLING.

C. C. Dr. H. B. Gessner, Chairman,
Dr. H. W. Kostmayer, Secretary,
Dr. P. T. Talbot, Secretary,
Dr. T. N. Dye, Secretary."

November 7, 1927.

"Dr. Oscar Dowling,

Louisiana State Board of Health,
New Orleans, Louisiana.

Dear Doctor Dowling:

It is with much regret that I feel compelled to accept your resignation as a member of the Journal Committee of our State Society—a position which you have filled with such loyalty and zeal ever since the original committee was appointed by President Williams.

As you know, I have had the honor and pleasure of being associated with you in medical journalism at various intervals for the past twenty years, beginning with the "Medical Recorder," later the "Journal of the Southern Medical Association," which was finally merged, with other publications, into the "Southern Medical Journal"; when the first Journal Committee was appointed, I rejoiced that I should again have the pleasure of serving under your chairmanship. With the above experience, therefore, I feel that I am well qualified to say that your great executive ability, natural intuition along these lines and unbounded enthusiasm for all that is best and ethical in medicine and in journalism will cause you to be sorely missed in the future deliberations of this committee.

In accordance with your request, I shall proceed at once, to appoint your successor and I believe that you will applaud my selection.

With renewed assurances of my kindest regards and best wishes, I am,

Fraternally yours,

(Signed) Arthur A. Herold,
President, La. State Medical Society."

November 8, 1927.

"Dr. S. M. Blackshear,
Title Guarantee Building,
Baronne Street,
New Orleans, La.

Dear Doctor Blackshear:

Dr. Oscar Dowling has tendered his resignation as a member of the Journal Committee and same has been accepted by me, effective upon the appointment of his successor.

I have the honor and pleasure of tendering the appointment to fill Dr. Dowling's unexpired term to you and trust that you will advise me of your acceptance by return mail.

With kindest regards, I am,

Fraternally yours,

(Signed) Arthur A. Herold,
President, La. State Medical Society."

Nov. 11, 1927.

"Dr. Arthur A. Herold,
President, Louisiana State Medical Society,
1166 Louisiana Ave.,
Shreveport, La.

Dear Doctor Herold:

I take pleasure in accepting the appointment to fill Dr. Dowling's unexpired term as a member of the Journal Committee and will do my best to fulfill the duties that accompany the position.

Sincerely yours,

(Signed) S. M. Blackshear."

THE INTERSTATE POSTGRADUATE ASSSEMBLY OF NORTH AMERICA.

This organization held a very successful and instructive meeting at Kansas City, Oct. 17-22. The Louisiana physicians in attendance were: Drs. Bamber of New Orelans; Baker of Minden; Ellis of Crowley; Garland and Lewis of Eunice; Arceneaux of Welch; F. Frater, Cassity, Gowen and Herold of Shreveport; Watkins of Lake Charles.

The Fourth District Medical Society held its fall meeting in Shreveport, Nov. 1, in conjunction with the Shreveport Medical Society. Interesting papers were read by Drs. Larue, Knighton and Caldwell, all of which provoked much discussion. The following officers were elected for 1928: President, Dr. Wren of Vivian; Vice-Presidents, Drs. C. M. Tucker of Haughton and J. A. Hendrick of Shreveport; Sec-Treas., Dr. Leroy Scott, Shreveport, re-elected; Delegate to State Society, Dr. J. L. Scales of Shreveport, the retiring president.

The LaSalle Parish Medical Society held one of its rousing meetings—for which the genial secretary, Dr. W. V. Taylor, is famous—at Olla on Nov. 3d. Besides a full membership from the parish, many visitors were preesnt, including Senator Hardtner of Urania, President Herold of the La. State Medical Society, Drs. J. Q. Graves, C. H. Moseley, George Wright, Councilor F. C. Bennett and Dr. Tisdale of Monroe; Drs. R. D. Simmons, J. A. White, M. H. Foster, Peters, Holloman and Meyers of Alexandria.

Dr. Herold read a paper on "Some Remarks on the Early Diagnosis of Pulmonary Tuberculosis;" Dr. Tisdale on "Salpingitis". Both papers provoked lively discussion .

After completion of the scientific part, a gastronomic program was furnished by the domestic science department of the Olla High School (a building which, by the way, would do credit to a place of several times the size of the town) and the visitors departed, deeply grateful for the excellent refreshments.

The Lafourche Valley Medical Society entertained the Third District Medical Society at the Country Club in Houma, La., on November 9. More than 50 physicians were present.

The Scientific Program included the following:

1—"Common Diseases of the Eye", by Dr. R. B. Buffington.

2—"Electro-Cardiograph", by Dr. A. E. Fossier.

3—"Retention Urine", by Dr. Paul Gelpi.

4—"Focal Infection", by Dr. J. R. Olivier.

5—"Scarlet Fever Prophylaxis", by Dr. Wm. Seemann.

Dr. Will Mayo of Rochester, Minn., was among the honored guests of the evening, and his presence and words of wisdom were a feature of the occasion. A duck and game banquet was participated in at the close of the scientific program.

The next meeting of the Third District Medical Society will be held at Lafayette in January.

The St. Tammany Parish Medical Society held its regular monthly meeting at Mandeville on November 11th, at 8 p. m., with the following members present: Drs. C. F. Farmer, President; H. D. Bulloch, Secretary-Treasurer; J. K. Griffith, F. R. Singleton, J. F. Polk, L. R. Young, N. M. Hebert and R. B. Paine.

The Medical Essayist failed to show up, probably because of the holiday (note the date). However, Mr. J. M. Burns of the local bar read a most interesting paper on "Medico-Legal Jurisprudence", which was much enjoyed and discussed by the entire membership. At times the discussion grew very animated, especially when "Chiropractics" entered the debate; against the latter the Society took a decided and unanimous stand, and the President appointed the following Committee to act in conjunction with the Committee on Public Policy and Legislation of the State Society: Drs. H. D. Bulloch, J. K. Griffith and R. B. Paine.

Dr. A. G. Maylie, delegate, submitted a communication elucidating the position of the House of Delegates and its Judiciary Committee on "Chiropractics" (especially) and a few other matters.

The next meeting of the Society, at which will take place the election of the 1928 officers, will be held at Slidell on December 8, 1927, at 7:30 p. m.

The LaSalle Parish Medical Society met in regular session November 3, 2:30 p. m., Olla Standard High School. Following members were present: Drs. T. M. Butler, W. V. Taylor, T. E. King, O. F. Matthews, H. S. Holloman, R. B. Taylor, R. O. Simmons, J. Q. Graves, F. C. Bennett, G. W. Wright, C. H. Mosley, J. A. White, M. H. Foster. Visiting physicians: Dr. A. A. Herold, President Louisiana State Medical Society; Dr. A. D. Tisdale, Dr. A. L. Peters, Dr. D. B. Barber, Dr. B. W. Thompson, Dr. J. M. Kitrell and Miss Jung, LaSalle Parish Health Unit; Dr. Fred Mecom and Dr. L. A. Myers.

Meeting was called to order by President T. M. Butler, M. D.

Hon. Henry E. Hardtner, Senator 3rd District was introduced and outlined the fight made in last Legislature by chiropractors. Mr. Hardtner told of his opposition to Chiropractic Bill, and stated that he was a candidate for re-election, and if selected that he would always be found in line with organized medicine and against special cults and irregular practitioners of medicine. Mr. Hardtner's

address was interesting and illuminative, and was liberally applauded. Dr. W. V. Taylor, Secretary, informed the Society that both Senator Hardtner and the nominee for Representative would cooperate with organized medicine in the coming Legislature. Dr. Taylor stated that the time to begin this fight against the Chiropractors was before the primary and not on the floor of the Legislature. Dr. Taylor urged those present to interview candidates for Senator and Representative, and if necessary oppose those who were against us.

Dr. Herold was introduced and gave a plain, practical, interesting and instructive lecture on the "Diagnosis of Pulmonary Tuberculosis". The lecture was impressively illustrated by X-ray pictures. It was a great lecture, timely, terse, up-to-date, delivered in Dr. Herold's best vein. It was a wonderful exhibition of present day knowledge and scientific achievement. Dr. Herold was applauded spontaneously and enthusiastically. The discussion was opened by Dr. R. O. Simmons, who was followed by Drs. C. H. Moseley, G. W. Wright, J. Q. Graves, J. A. White and W. V. Taylor. The discussion was a splendid symposium. Many diagnostic points were brought out by those who participated. Dr. R. O. Simmons stated that there was a master X-ray man present, and suggested that the Society hear Dr. L. A. Myers of Alexandria. Dr. Myers made a blackboard demonstration. His drawings and explanations were remarkable and settled some mooted points. Dr. Herold in closing congratulated the LaSalle Parish Medical Society and returned his personal thanks to those who so intelligently discussed his lecture.

Dr. A. D. Tisdale read a practical and instructive paper on "Salpingitis". The discussion was opened by Dr. M. H. Foster. His talk was possibly the most able, interesting, instructive, and enjoyable of the meeting. He was followed by Dr. G. W. Wright, Dr. Tisdale closing. After the scientific program the Society adjourned to the Domestic Science Building and enjoyed a delicious beautifully served lunch, prepared by Miss Fincher, her girls, Mrs. R. E. Prestridge, and Mrs. L. H. Taylor. Every doctor as he entered the lunch room had pinned upon him as favor a bottle of sugar pills with directions for taking, prescription by Dr. Physic.

The after dinner speech of Dr. M. H. Foster caught everybody. The meeting was greatly enjoyed by all present. They left with their fund of knowledge increased, the cares of life and the strenuous work forgotten for the time being; friendships renewed, fraternity strengthened by the warm grasp of hands.

FIFTY PHYSICIANS AT BIG MEETING.

Approximately fifty doctors from cities in the Sixth Louisiana Congressional District, met in Bogalusa Wednesday for their annual fall meeting. Scientific papers were read by Dr. Joseph A. Danna, of New Orleans, on "Recurrent Duodenal Obstruction"; Dr. George S. Bel, of New Orleans, on "The Heart"; Dr. F. F. Young, of Covington, on "Mental Disorders and Society"; Dr. J. H. Slaughter, of Bogalusa; Dr. R. B. Payne, of Covington, and Dr. Carruth, of De Ridder.

Dr. J. H. Slaughter, commissioner of public health, of Bogalusa, tendered the visitors and delegates a welcome in behalf of the city, and presented Dr. A. G. Maylie, president of the Sixth District Medical Society, who presided.

After the business meeting, report of Secretary Dr. T. C. Paulsen, of Baton Rouge, and the reading of the scientific papers and discussions, the delegates were tendered a luncheon at the Pine Tree Inn by Mayor Sullivan. Following the luncheon, the Elizabeth Sullivan Memorial Hospital was visited and inspected, and a trip was made through the Bogalusa Paper Company and the reforestation plantation.

Vice-presidents of the society in attendance were: Dr. D. T. Martin, Donaldsonville; Dr. T. J. McHugh, Baton Rouge; Dr. E. M. Toler, Clinton; Dr. B. O. Leblanc, St. Gabriel; Dr. J. A. Thom, Livingston; Dr. M. C. Bernel, New Roads; Dr. H. A. Tynes, Grangeville; Dr. L. B. Young, Covington; Dr. Lucien McGehee, Hammond; Dr. J. H. Slaughter, Bogalusa; Dr. A. F. Barrow, St. Francisville.

The attendance was pronounced by President Maylie as one of the largest in the history of the Society, and the papers read were of an exceptionally high order.

DR. FELIX R. HILL TAKEN BY DEATH.

Dr. Felix R. Hill, 46 years old, a leading Alexandria physician, died at 1:45 o'clock a. m. Oct. 28. Dr. Hill suddenly became ill the day before and was removed to a hospital where he succumbed. He was a native of Henderson, Texas, where he was born July 13, 1881. He moved with his family to Alexandria, when a small child. He was a son of the late William Hill, for many years a leading cotton buyer of Central Louisiana.

Dr. Hill was graduate of the Tulane Medical School. He served fifteen years in the medical corps of the United States army and attained the rank of major. He served two years in France during the World War. He returned to Alexandria in 1925 and has since been engaged in the practice of his profession, specializing as radiologist. He was a member of the Masonic fraternity and a Shriner. Alexandria Masons attended the funeral in a body. Services were conducted at the family home on Vance avenue, Alexandria by Rev. W. S. Slack, rector of St. James' Episcopal Church.

Dr. Hill was a brother of Walter D. Hill, local banker. Other surviving relatives are: His mother, Mrs. William Hill, Walter D. Hill, Robert Hill, John Hill and Harold Hill, brothers, and Mrs. Lottie Herkenrath and Miss Louise Hill, sisters.

Died at Goodpine, La., Oct. 17th 5 p. m. of chronic nephritis, Dr. William Fred Wade, aged 48 years. He leaves a wife (nee Miss Mary Futtrell), and three sons. Dr. Wade was a graduate of Memphis Medicine College, 1906. He was a member of the American Medical Association, Southern Medical Association, Louisiana State Medical Society and the LaSalle Parish Medical Society. He was a Mason of high standing. The funeral services were held at Jena Methodist Church, Rev. A. B. Moses, Good Pine Baptist Church, officiating. Interment, Jena Cemetery, services being conducted by Carietta Lodge No. 320, F. & A. M., of which Dr. Wade was a member. He was a Royal Arch and a Shriner. Dr. Wade practiced his profession from graduation to death at Good Pine, La. His funeral was one of the largest ever held here, thus attesting his popularity, as man and physician. The LaSalle Parish Medical Society extends unfeigned heartfelt sympathy to the bereaved family. We shall miss his counsel, his loyalty, his work for organized medicine and his friendship.

The following information regarding changes of assignment of Medical and Dental Reserve Officers residing in Louisiana is submitted:

Major Duncan MacCalman, Med-Res., New Orleans, La., is relieved from Field Artillery Group and assigned to the 87th Div.

Capt. Richard R. Bailey, Dent-Res., Jackson, La., is relieved from 563rd Engrs. Auxiliary Battalion and assigned to the 87th Div.

Capt. Eugene C. Stamm, Dent-Res., U. S. Marine Hosp. No. 14, New Orleans, La., is relieved from the Field Artillery Group and assigned to the 87th Div.

1st Lt. Edmund C. Quirk, Jr., MA-Res., is relieved from Sta. Hosp. No. 70 and assigned to the 87th Div.

Capt. Lewis H. Levy, Med-Res., 92 Moss St., New Orleans, La., from 4th C. A. Dist. to 14th Wagon Train.

Examinations of candidates for commission as Assistant Surgeon in the Regular Corps of the U. S. Public Health Service will be held at the following-named places on the dates specified:

At Washington, D. C., February 6, 1928; Chicago, Ill., February 6, 1928; New Orleans, La., February 6, 1928; San Francisco, Cal., February 6, 1928.

Candidates must be twenty-three years and not over thirty-two years of age. They must have been graduated in medicine at a reputable medical college, and have had one year's hospital experience or two years' professional practice. They must satisfactorily pass oral, written, and clinical tests before a board of medical officers, and undergo a thorough physical examination.

Successful candidates will be recommended for appointment by the President, with the advice and consent of the Senate.

Requests for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

H. S. Cumming,
Surgeon Geneal.

UNITED STATES CIVIL SERVICE EXAMINATIONS.

The United States Civil Service Commission announces the following open competitive examinations: Associate Pathologist, $3,000; Assistant Pathologist, $2,400.

Applications for associate and assistant pathologists must be on file with the Civil Service Commission at Washington, D. C., not later than December 6.

The examinations are to fill vacancies in the Bureau of Mines, Department of Commerce, for duty in Washington, D. C., or in the field. A vacancy exists at Pittsburgh, Pa.

The entrance salaries are indicated above. A probationary period of six months is required; advancement after that depends upon individual efficiency, increased usefulness, and the occurrence of vacancies in higher positions.

The duties are to make pathological studies to determine the effects on man and animals of various poisons found in the mining industry, which includes the effects of poisonous gases, liquids, and solids; to make autopsies of animals exposed under known conditions, making reports upon both gross and microscopic findings; to examine occasionally bacteriological specimens when received from the field; to cooperate and assist in other scientific research when needed, and to prepare reports for publication.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience; and writings to be filed with the application.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the United States civil service board of examiners at the post office or customhouse in any city.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

J. S. Ullman, M. D., Associate Editor.

The Issaquena-Sharkey-Warren County Medical Society is making extensive plans for its annual meeting, December 13th, at the Y. M. C. A., Vicksburg. In addition to the election of officers and adoption of a budget for the coming year, the program will include papers by Joseph Hume, Professor of Genito-urinary and Venereal Diseases, Tulane University; C. Jeff Miller, Professor of Obstetrics and Clinical Gynecology, Tulane University and New Orleans Polyclinic; John Joseph Shea, Otology, Laryngology, and Rhinology, Memphis.

The committee in charge of the program is Drs. W. H. Parson, A. Street, and G. P. Sanderson.

Mr. Arthur J. Strawson, Supervisor of Field Service of the National Tuberculosis Association, was the guest of Dr. Henry Boswell at Sanatorium on October 4th. During Mr. Strawson's stay he visited all departments of the institutions.

On October 5th Dr. Henry Boswell made two speeches in Newton County, speaking both at the Newton County Fair at Decatur and at the Newton County Agricultural High School. Both times he spoke on the subject of "Tuberculosis" and stressed its relation to the problem of both county and state.

The State Tuberculosis Association met with the Hinds County Tuberculous Association at the Edwards Hotel, Jackson, Mississippi, on the evening of October 6th. County representatives were present from all over the state and there were many earnest and worthwhile speeches during the dinner which preceded the executive session. The progress of the work for the eradication of tuberculosis in Mississippi was the theme of the talk of Dr. Henry Boswell of the Mississippi State Tuberculosis Sanatorium. He gave a group of highly significant figures demonstrating the results being felt in Mississippi because of the organized fight against this dread disease. Dr. Boswell made statement regarding further steps necessary to better bring the scourge of tuberculosis under proper control. As statistics show that most of the deaths from tuberculosis occur in persons between the ages of 10 and 29, thus snatching the youth of our country and state, this renders more necessary proper preventoria and health education of the young.

Mr. Arthur J. Strawson made one of the leading speeches of the evening. Dr. Felix Underwood served as toastmaster for the occasion.

Mrs. Robert Phifer, State Executive Secretary of the National Tuberculosis Association, made a very earnest plea for the coming Christmas Seals sale and spoke in this connection of the Children's Health Camp which has now successfully terminated its third season.

The following physicians have been among those who have recently called at the Mississippi State Tuberculosis Sanatorium either to bring patients for examination or to go through the various departments of the institution and call upon friends there: Dr. Monroe of Lake, Dr. Lampton of New Hebron, Dr. Roberts of Poplarville, Dr. Beacham of Hattiesburg, Dr. Steen from Florence, Dr. Flynt of D'Lo, Dr. Kittrell of Laurel, Dr. Pope of Zama, Dr. Glover, Dr. Johnson of Pensacola, Florida, Dr. Castles of Meridian, and Dr. Schwartz, superintendent of Robert Koch Hospital, St. Louis, Missouri. Dr. Schwartz is formerly from Sumrall, Mississippi.

The Central Medical Society met on Tuesday evening, October 18th, as guests of Dr. Henry Boswell and the Medical staff of the Mississippi State Tuberculosis Sanatorium. Members of the staff made a number of interesting and worth while presentations during the program of the evening.

The program of the evening was opened by a talk on tuberculosis by Dr. Henry Boswell, superintendent of the Sanatorium. The theme of this address was the value of co-operation between the general practicing physician and the medical staff of the Mississippi State Tuberculosis Sanatorium. He also discussed briefly some of the many problems confronting the medical staff and head of the institution daily.

Dr. C. E. Walker, assistant superintendent of the Sanatorium, followed Dr. Boswell with a presentation of case reports. X-ray pictures were shown to demonstrate various phases of these cases.

Dr. Jesse L. Roark then read a paper on "Tuberculosis of the Mammary Glands." In connection with this he gave detailed report of one case at present under his treatment and also gave a resumé of the literature extant upon this particular phase of tuberculous disturbance.

His paper was followed by discussions of the paper by Dr. M. L. Flynt of D'Lo and Dr. Henry Boswell.

Dr. B. B. O'Mara next presented in clinical demonstration a man and a woman, both patients

of the institution. Particular stress was placed during this presentation upon the unusual ability of certain patients to recover from far advanced stages of pulmonary tuberculosis.

Dr. E. D. Kemp then showed a number of X-ray pictures and gave a talk upon pulmonary X-rays.

Dr. Hugh Anderson followed with "Uses and Abuses of Artificial Pneumothorax."

Dr. Felix Underwood of the State Department of Health closed the meeting with a brief talk upon certain matter of importance to the medical profession.

The program was followed by a short business session.

Mrs. Miriam Ogden, Editor of The Thermometer, official publication of the Mississippi State Sanatorium, is in charge of the Christmas Seals Sales for Simpson County. Much work is being put forth to interest the school children, business people and everyone in making a success of this important drive as upon its success in a large measure depends the amount of good which may be accomplished by the Children's Health Camp in the coming summer. It is hoped that Women's Clubs and other organizations will interest themselves in this exceedingly humanitarian enterprise.

Dr. B. B. O'Mara and Dr. Henry Boswell attended the Ole Miss Alumnae banquet given by the Simpson County Alumnae at the Sugar Moon Cafe at Magee on the evening of October 26th. Dr. Boswell made one of the out-standing speeches of the evening.

Mr. John Rowan, Business Manager of the Mississippi State Sanatorium, went to Milwaukee to attend the American Hospital Association which was held during October 10th to 14th inclusive. While on this trip Mr. Rowan visited at Oak Terrace, Minnesota, Glen Lake Sanatorium and also Presbyterian Hospital at Chicago, Illinois, observing methods of hospital and business management in both places. One day of this association was devoted to the interests and problems of tuberculosis institutions.

Mrs. Eleanor Moss, superintendent of Nurses of the Mississippi Sanatorium, and Misses Mamie King and Alpha Ishee of the nursing staff attended the State Nurses Association which was held in Meridian during the last week in October. Mrs. Moss was Chairman of the Hospital Division of the Association and presided at one of the sessions. She has also recently been elected Sixth Vice-President of the Association which carries with it the chairmanship of the Nurses Relief Fund Committee.

A strong effort is being made to have a Red Cross Roll Call this year in Simpson County. This work is under the direction of Miss Gertrude Butler, who is chairman of Red Cross Activities for Simpson County. Miss Butler is the secretary of Dr. Henry Boswell of the Mississippi State Sanatorium.

THE PHYSICIAN AS A TEACHER OF HEALTH.

In our Mississippi program of preventive medicine, the periodic examination of apparently healthy persons is considered an important and fundamental procedure. The time was in this state that a well person could not get the attention of his doctor. It was necessary to be sick in order that anything approaching a thorough examination could be had. A mother taking her well baby to the physician for advice and feeding schedule was asked, "What is the matter with the baby?" or "How long has he been sick?" And when he realized that the youngster was not ill at all, with a pinch on the cheek the doctor would say to the mother, "Oh, he is all right. You need not worry about him—if he gets sick, let me know." How different today. The medical profession is interested in keeping well babies well and mothers get sympathetic attention in keeping their well babies well.

Only a few days ago I was standing on the street in Jackson talking to a prominent member of the medical profession, and while engaged in conversation with him, one of the best lawyers in the city walked up and said to this physician, "Doctor, I think I am hitting all six but I would like for you to check me over. I have not had an examination this year; when can you take me?"

The examination is, however, only the first step and must be followed by advice to the one examined as to his health habits and conduct. This advice should have to do not alone with his personal welfare, but also with that of his family and with that of other persons in the community in which he lives. The mere physical examination, no matter how thorough, accurate, and comprehensive, is of little value unless it is supplemented by information as to what steps need to be taken to bring about the maintenance and often the betterment of the health of the client and of his family. The advice, moreover, should be so impressed on him and so followed up as to insure his acting on it. In other words, the physician who makes the examination should be the health adviser and teacher of those whom he examines.

In no other way can advice and instruction be so effectively given as in the intimate, face to

face contact of the doctor and his client in the privacy of the physician's office or his client's home.

On October first the Warren County Health Department was organized with Doctor F. Michael Smith, native Mississippian, but formerly of Pine Bluff, Arkansas, as Director of the Department. Doctor Smith has had eight years training in public health work in Louisiana and Arkansas. The organization of this Department was due largely to the efforts of the medical profession of Vicksburg. This is most unusual, but is as it should be. The medical profession should lead everywhere in the establishment of adequate public health service for the people.

Dr. Hugh L. McCalip of Yazoo City entered into training for a public health career on November first. After a period of training at the Training Station at Indianola, Mississippi, Dr. McCalip will be made Assistant Health Officer of Hinds County and later will be placed in charge of a county.

Lauderdale and Monroe Counties have made provision for full-time health work to begin January first.

Dr. Wm. E. Noblin of Yazoo City, who for the past eight or nine years has served Yazoo County as Health Officer, will be placed in charge of the Hinds County Health Department on November fifteenth.

Dr. Fred T. Foard of the United States Public Health Service has for the past four months been assisting the Director of County Health Work, Dr. C. C. Applewhite, in organizing full-time health departments in the Delta counties. Dr. Foard came to the Mississippi State Board of Health from the San Joaquin, California, county health department.

Dr. Edmund T. Lentz of the United States Public Health Service, who for the past four months has been attached to the Missisippi State Board of Health engaged in flood relief work, left on November first for Portland, Maine, for hospital work.

Dr. R. R. Kirkpatrick, former Chief of the Coahoma County Health Unit, has resigned his position and at present is serving an interneship in the Eye, Ear, Nose and Throat Hospital, Memphis, Tenn.

Dr. D. V. Galloway, formerly of Jackson, is now Chief of the Health Unit of Coahoma County.

The Issaquena-Sharkey-Warren County Medical Society held its regularly monthly meeting, November 8th, in Vicksburg, Mississippi, at which time the following program was presented:

1. "The Treatment of Prostatic Lesions by Radium." Dr. B. B. Martin.

2. "Artificial Pneumothorax as a Method of Treatment of Lesions of the Lungs." Dr. J. A. K. Birchett, Jr.

3. "Report of the Recent Meeting of the American College of Surgeons." Dr. I. C. Knox.

4. "Medical Ethics." Discussion to be opened by Dr. E. F. Howard.

The Delta Medical Society met in Greenwood October 12th, 1927, with the following essayists on the program (titles of papers not reported): F. M. Acree, Greenville; F. L. Jelks, Memphis; B. F. McNeal, Moorhead; R. E. Wilson, Greenville, and Henry Hill, Memphis.

The following officers were elected for the ensuing year:

President: Dr. R. M. Donald, Moorhead.

Vice-Presidents: W. P. Shackelford, Hollandale; R. C. Smith, Drew; W. A. Carpenter, Cleveland; L. F. Ferguson, Greenwood; G. M. Barnes, Belzoni.

Delegates: C. W. Patterson, Rosedale; U. S. Wasson, Moorhead; L. K. Mayfield, Greenwood; A. J. Ware, Greenville; J. C. Higdon, Belzoni.

Secretary: R. C. Finlay, Greenville.

The next meeting will be held in Belzoni, April 11th, 1928.

Dr. T. J. Safley of Drew, Mississippi, a graduate of Tulane in 1906, died October 5, 1927.

Dr. W. E. Peek of Morton, Mississippi, died October 14, 1927.

The Vicksburg Sanitarium and Crawford Street Hospital reports the following program of its staff meeting, November 10, 1927:

1. "Calculus of Ureter." Dr. S. Street.

2. "Premature Ventricular Contraction." Dr. L. J. Clark.

3. "Submucous Resection and Tonsillectomy at One Operation." Dr. Edley H. Jones.

4. "Case Report." Dr. W. H. Parsons.

Dr. S. H. Hairston of Meridian announces that he will shortly begin the construction of a modern fire-proof, three-story building for his private hospital. It will contain thirty-six beds and will cost $100,000. The hospital will be fully standardized in accordance with the regulations of the American Medical Association and American College of Surgeons.

The Clarksdale and Six Counties Medical Society held its annual meeting in Clarksdale November 9th. Their program was as follows:

1. "Acute Osteomyelitis." Theo. Mitchell, Clarksdale.

2. "Acute Ileocolitis (Dysentery)." H. E. Day, Duncan.

3. "Light Therapy in General Practice." A. J. Brown, Clarksdale.

4. "Acid Milk in Infant Feeding." W. S. Slaughter, Jonestown.

5. "Otitis Media in Infants and Young Children." D. H. Griffin, Clarksdale.

6. "The Diagnostic Consideration of Acute Epigastric Pain." J. A. Crisler, Jr., Memphis.

7. "Some Unusual Throat Infections." Chas. D. Balssingame, Memphis.

8. "Some Observations on the Toxemias of Pregnancy." Percy W. Toombs, Memphis.

The following officers were elected for the ensuing year:

President: J. D. Biles, Sumner.

Vice-Presidents: Boliver County, L. L. Brookshire, Hushpuckena; Coahoma County, D. H. Raney, Mattson; Quitman County, none elected; Tallahatchie County, J. A. Harris, Swan Lake; Tunica County, L. H. Brevard, Dundee.

Secretary: D. V. Galloway, Clarksdale.

Censor for three years: A. G. Everett, Friars Point.

Member Medical Defense for three years: J. W. Grady, Clarksdale.

The next meeting will be held in Clarksdale on March 28, 1928.

THE ROLE OF THE PHYSICIAN IN THE CAMPAIGN AGAINST DIPHTHERIA IN MISSISSIPPI.

The week ending October 29 showed ninety-seven cases of diphtheria with several deaths. There were eleven cases in one county, eight in another, six in two others, four each in four counties, three each in three counties, two each in eleven counties, one each in nineteen counties. Thirty-three of the counties had none and six of the counties did not report.

Several of the states have adopted the slogan that they will have no diphtheria by 1930. In none of these states are the physicians more interested in the health of their people than in Mississippi.

Diphtheria must go! We know absolutely how to control it; it is just a question of the parents realizing the importance of giving each child between the ages of six months and ten years toxin-anti-toxin. Three little injections given under the skin, just as any other hypodermic is given will protect eighty-five to ninety per cent of the children from diphtheria for life.

The State Board of Health for the past three years has been urging that this be done immediately, and many of our full time Health Officers have been diligent in this matter. It is perfectly proper and right for the Health Officers to do general vaccinations and immunizations in the prevention of disease, but with the active support and assistance of the medical profession the job will be put over quicker and many lives will be saved. In the fifty-eight part-time counties very little will be accomplished in this matter unless the medical profession is interested and active. Many physicians have shown a splendid interest in this matter.

There is no excuse for ninety-seven cases of diphtheria in the State of Mississippi except our failure to take advantage of a protective agent that has been thoroughly tried out and proven. There is no danger in the giving of this protection even though the child comes down with the disease before the immunization is completed and has to be given the curative agent antitoxin. If Mississippi is to be freed from the bondage of this enemy of early life the general practitioner of this state must be the modern Moses to lead the children of Mississippi from the bondage of diphtheria.

Don't put this matter off. Get the children protected now.

BOOK REVIEWS

Clinical Case-Taking: Supplement to Methods in Medicine: By George R. Herrmann, M. D., Ph. D. St. Louis, The C. V. Mosby Company, 1927, pp. 90.

The development of this concise, yet comprehensive little volume has been followed with a great deal of enthusiasm. The need for such a work has been fully reailzed. The book has been in use since the beginning of the present session, and an immediate improvement has been noted in the students' work in bedside medicine.

In the past, the work of the instructor has been a monotonous task of rehashing of students' records, in an attempt to develop symptomatology, and to repeat with each clinical section fundamentals which are not to be found in text books. The present volume will serve to eliminate such a task and will aid the student to develop symptomatology more effectively.

The students are usually taught the proper form of recording the anamnesis and the status praesens, but little or no emphasis is placed on a most important part of the record—the progress sheet. This is brought out forcibly in "Clinical Case-Taking."

The use of the section, Review of Systems, will serve to obviate to a great extent the so often repeated phrase, "The errors of omission are greater than those of commission."

The book will also find a place on the desk of the general practitioner who may, at intervals, have occasion to refer to it in the development of obscure symptomatology.

Russell C. Pigford, M. D.

Intracranial Tumors and Some Errors of Their Diagnosis: By Sir James Purves-Stewart, K. C. M. G., C. B., M. D. (Edin.) F. R. C. P. London, Oxford University Press, 1927. pp. 206.

A collection of reports on the author's cases told in a very interesting manner and emphasizing the great difficulties encountered in the diagnosis and localization of cranial neoplasms, particularly emphasizing a number of the pitfalls which are to be avoided. It is a book that may be read with great benefit by anyone, but particularly by the neurologist or the surgeon who has a leaning towards cranial work.

E. McC. Connely, M. D.

Modern Practice of Pediatrics: By William Palmer Lucas, M. D. New York, The MacMillan Co. 1927. pp. 962.

The author intends in this book to correlate the clinical side of pediatrics with the laboratory side of pediatrics and, therefore, he has given the name of his book as "Modern Practice of Pediatrics."

The book is divided into two parts. The first is headed "Infancy," the second part "Childhood." At the close of each chapter there is a comprehensive list of references. The illustrations are quite numerous. Some are rather good, but others are very poor. The entire makeup of the book is not altogether pleasing, for one finds that some subjects stand out in bold type, while others of far greater importance are printed in an insignificant way. I have reference to the chapter on infectious diseases. Here, the different diseases follow one another without due spacing, etc.

Under the title of "Infancy," the author includes such subjects as history, physiology of digestion, intestinal disturbances, hypersensitivity, and other allied subjects. It is true that some of these problems belong to Infancy, but surely not all of them. The division of Infancy is certainly not accurate, as shown by the various subjects which are discussed.

The second part of the book covers what the author calls "Childhood." Here, too, there are several subjects which certainly do not belong under this heading—for instance, a plan for feeding during the first year, and special methods of physical examination during infancy are discussed, even some of the illustrations are those of an infant. Some of the chapters, however, are most excellent, such as the chapters on Diseases of the Blood, Genito-Urinary Diseases. In this latter chapter, the author does not mention the value and importance of the cystocope in the diagnosis of the genito-urinary conditions. The chapter styled "Mental Problems" is rather a new one to be considered in a text book on Pediatrics, and certainly the author is to be commended on including it. The author has failed, however, to mention anything about child guidance problems, which the reader feels might have been included in this chapter.

The concluding chapters are devoted to a detailed consideration of different therapeutic and diagnostic methods in pediatrics, and they are very complete in parts. For instance, the ketogenic diet in epilepsy, with model diet lists is taken up in detail.

Julian Graubarth, M. D.

Obstetrics and Gynecology: Yearbook for 1926 (Practical Medicine Series), edited by Joseph B. DeLee, A. M., M. D., and J. P. Greenhill, B. S., M. D., F. A. C. S., and John Osborn Polak, M. D. Chicago. Year Book Publishers, 1927. pp. 598.

One of the Practical Medicine Series—a volume comprising a review of the year's publications in Gynecology and Obstetrics under the able editorship of DeLee and Polak. It is a most valuable addition to the library of those engaged in these specialties. Numerous articles are reviewed, a few of which because of their importance are published fully. Almost all are incorporated with valuable comments by the editor. This volume facilitates considerably the work of one who has to be posted on matters pertaining to these branches.

Adolph Jacobs, M. D.

Surgical Diseases of the Gall-Bladder, Liver and Pancreas and Their Treatment: By Moses Behrend, A. M., M. D., F. A. C. S. Philadelphia. F. A. Davis Co. 1927. pp. 278.

This treatise deals with subjects that are much discussed at present and the subject matter is handled very thoroughly. It is to the point, eliminating uncalled for references, making the book enjoyable reading.

The initial chapter is on embryology, followed by the anatomy of the liver, biliary apparatus and pancreas. The anomalies of the arteries and ducts are gone into at length with the assistance of many plates showing the pitfalls of surgical technique, behooving one to be wise and careful.

Following in order are the physiology of the liver and pancreas, pathology of the gall-bladder, origin of gall-stones, symptomatology of gall-bladder disease and gall-stones.

Chapter 7 deals with the diagnosis of gall-bladder disease with a discussion of cholecystography. The author prefers the intravenous use of the dye.

Very little consideration is given to the medical treatment of duodenal drainage; as to surgical treatment, the author prefers cholecystectomy, emphasizing a technique of exposure of the ducts and vessels (open method of removal of the gall-bladder) i. e., from below upward. He considers empyema of the gall-bladder; allowing cases to cool before operating is advised. Here the subject of unexplained deaths following operation is discussed, referring under heading of blood chemistry to the estimation of blood sugar, and especially urea nitrogen. A criticism at this point is that the urea nitrogen might be shown to greater interest by the work of Heyd and Killian (Ann. Surg. 79:55), demonstrating that the relation of the Co^2 combining power in the blood stands out foremost as a post-operative guide. I might suggest that a thorough reference to the work of these authors would increase the value of subsequent editions.

The next chapter is devoted to cholemia and operations for its relief. In the case of stone in the common duct the open method of aspirating the ducts is advocated. A statement to substantiate the latter is that there are found in the anatomical room, 25 per cent variation in the relation of the ducts to each other and to the blood vessels. Also in this chapter is discussed the repair of common duct injuries and the internal drainage operation (i. e., anastomosis of the gall-bladder and other viscera) for tumors causing obstruction within or without the common bile duct.

Chapter 11 is devoted to a few remarks on prognosis, also remote results and complications following cholecystectomy, the salient one being subphrenic and subhepatic collections. The other complications are mentioned in very few words.

Chapter 12 considers injuries and diseases of the liver: (a) trauma and treatment; (b) infections, which are discussed under headings of abscesses, single, multiple and amebic; (c) acute yellow atrophy; (d) carcinoma; (e) cirrhosis; (f) hydatid cyst. The chapter that follows considers diseases and treatment of the pancreas, acute hemorrhagic pancreatitis are discussed at length. Chronic pancreatitis is treated briefly, advocating internal drainage. Abscess of pancreas is mentioned as a rare condition. Carcinoma and cyst are discussed in brief, the chapter concluding with diagnosis of diseases of the pancreas.

The final chapter is on the results of ligation of the hepatic artery in animals, with a general conclusion that ligation of the hepatic artery is dangerous at all times.

The author should be complimented on handling such a large subject in such a thorough manner, holding the interest of the reader throughout.

Emile Bloch, M. D.

Normal Midwifery for Midwives and Nurses: By G. W. Theobald, B. A., M. D., B. Chir. (Camb.) F. R. C. S. (Ed.), M R. C. P. (Lond.) L. M. (Rot.). London, Oxford University Press. 1927. pp. 258.

One follows with pleasure the author's simple yet clear presentation of this most important subject. The chapter on The Mechanism of Labor is especially good. In this book Dr. Theobald not only

takes up normal midwifery but he devotes several chapters to abnormal cases, and infant feeding. On the whole the work should prove a splendid guide to the midwife.

JOHN F. DICKS, M. D.

International Clinics, June, 1927. Philadelphia, J. B. Lippincott Co. 1927. pp. 308.

Like its forerunners this issue of International Clinics is filled with most interesting and illuminating articles on the medical subjects vital to the everyday practice of medicine. Of great interest, as reflecting foreign medical opinion, are the travel clinics. This issue contains an address by President Coolidge. The book merits the attention and consideration of any physician interested in medical progress.

I. L. ROBBINS, M. D.

Practical Lectures on the Specialties of Medicine and Surgery: 2d series, 1924-26. New York, Paul B. Hoeber. 1927. pp. 589.

C. A. Gordon and T. S. Welton present 37 lectures on the specialties of medicine and surgery delivered by men recognized masters of their subjects. These lectures were originally given before the Medical Society of Brooklyn (County of Kings). Every year for 5 years (though the society itself is 105 years old) a Spring course of 10 lectures on consecutive Fridays is offered to its 1700 members. The book under discussion is the second collection of these.

The reviewer urges all to read this unique book. The articles are in the form of attractive talks on subjects widely apart on every branch of medicine and surgery, and besides being interesting and exceedingly pleasant to read, furnish up to date information which it would take time and great energy to gather elsewhere.

These talks are further attractive in being individual and not a rehash. They represent the subject as focussed by the specialist who gives it but who has used judgment and a wide experience in reaching this focus.

Several of the subjects stand out most prominently:

Abdominal palpation in labor.

Fits; the temperosphenoidal lobe as a repository of memory pictures of very early life.

The doctor in court. This is a short collection of hints as to what to say and how to say it in court.

The surgical and puerperal aspects of septicemia.

The talk on pneumonia and that on the heart is short but full of new and valuable information.

The article on inherited syphilis is presented in an unusually attractive form, short but very useful.

In conclusion, the writer will cite some subjects to indicate the wide field covered by this book: Hayfever; Newer Remedies; Common Skin Diseases; Public Health Service; Surgical Abdomen; Goitre, etc.

NARCISSE F. THIBERGE, M. D.

Potassium and Tartrates: By Ralph W. Webster, Ph. D., M. D. Chicago, Commonwealth Press. 1927. pp. 168.

A small volume reviews first the physiologic effects of potassium and tartrates in 30 pages, and then the remainder of the volume contains abstracts of literature concerning the action of these two drugs. The book should prove of immense value to the inorganic chemist, the pharmacologist, and the biochemist as a complete summary of the literature of the subject matter.

J. H. MUSSER, M. D.

Tiger Trails in Southern Asia: By Richard L. Sutton, M. D., Sc. D., LL.D., F. R. S. (Edin.). St Louis, C. V. Mosby Company. 1926. pp. 207.

Physiciains who are desirous of availing themselves of a real hunting trip, the unusual information and detailed description of the various wild animals found in Southern Asia, will find in this contribution material which will be of inestimable value to them in developing their plans. It is especially characterized by many beautiful wild life photographs, with plain description of the peculiarities of the country and people of the hunting locality.

P. T. TALBOT, M. D.

Bronchoscopy and Esophagoscopy: By Chevalier Jackson, M. D. 2nd ed. Philadelphia and London, W. B. Saunders Co. 1927. pp. 457.

For many years bronchoscopy and esophagoscopy were concerned chiefly with the problem of removal of foreign bodies. In recent years, however, diagnosis and treatment of diseases of the esophagus and the tracheo-bronchial tree by direct inspection endoscopically have attained increasing importance, and the field has become equally as important as the foreign body problem and far more extensive in the work which it demands of the endoscopist. These newer phases of bronchoscopy and esophagoscopy have been most thoroughly covered in this edition. Particularly help-

ful are the plates of pathological conditions. These plates are reproductions of illustrations in colors by the author and are beautifully done. Being the recorded mental impressions of the artist-author they are undoubtedly more accurately descriptive than illustrations would be from the hand of a lay artist.

In foreign bodies of the air and food passages the solution of the mechanical problems are described. Dr. Jackson pleads for constant practice on the cadaver, manikin and dog, in acquiring skill in the removal of foreign bodies, and insists on thorough bronchoscopic training before the beginner attempts bronchoscopy. Inadequate training is doomed to result in failure or tragedy.

The author has been responsible more than any other individual for advances made in bronchoscopy, yet he modestly makes no claim to priority in anything.

The book is unquestionably the best work extant on this subject.

H. KEARNEY, M. D.

A Text-Book of Histology: By Frederic T. Lewis and J. L. Bremer. Philadelphia, P. Blakiston's Son & Co. 1927. ix+551 pp.

This book is a revision of the second edition of Lewis and Stohr's Text-Book of Histology, based on the fifteenth German edition of Stohr's text. It is designed as a text-book for routine courses in Histology (inclusive of Microscopical Organology as well as Histology proper). Clarity of description, conciseness, and an abundance of instructive illustrations are, as formerly, notable features in the makeup of the work.

The embryological approach to Histology, introduced by Lewis in the first American edition, is retained, with the just contention that "the tissues and organs of the body can be best understood by the student if they are followed from their early beginnings through their development to adult form." Functional considerations are accorded greater emphasis than in preceding editions, and the assembling of all endocrine glands in one section represents a distinct advance from this point of view. A brief section on the use of the microscope is a welcome addition, particularly because it includes a discussion of certain fundamentals of microscopical interpretation which are commonly not appreciated by beginning students.

HAROLD CUMMINS, PH. D.

Hunter Tod's Diseases of the Ear: By George C. Cathart, M. A., M. D. 2d ed. Lond., Oxford University Press. 1927. pp. 333.

This is a practical handbook for senior students and general practitioners revised from the book written by the late Hunter Tod and practically re-written by Dr. Cathart. Reference is made to the new Zund Burguet Electrophonoide in use in Paris and London.

The arrangement of the matter, the clear large print and the extremely practical presentation of the subject recommend the book most highly. The anatomy of the ear, a part usually dreary, is most pleasing to read and easily understood from the numerous clear plates and illustrations.

Not many formulas are given, but these are good. The chapters on middle ear inflammation are well presented. The article on otosclerosis and the role of infectious diseases as a factor in producing deafness furnish valuable information to the general practitioner.

A fair part of the 325 pages is devoted to the surgical section. The little volume is handy to keep for reference.

NARCISSE THIBERGE, M. D.

The New Medical Follies: By Morris Fishbein, M. D. New York, Boni & Liveright. 1927. pp. 235.

Without agreeing with everything the author has to say, the fact remains that this is a valuable addition to the literature of this subject. The encyclopedia of the cults and quackeries in this country is an exhaustive study of conditions as they exist today. Beauty, Rejuvenation, Psychoanalysis, Dieting and other important topics of the day are dealt with at great length. The entire book shows the author to be a true soldier. His attacks on the cults and quackeries are unrelenting though just; merciless though fair. They are parasitic afflictions of an uninformed and credulous public and as such they must be rooted out. Medicine approves the appropriation of any information that can stand the penetrating gaze of scientific investigation, but refuses to indulge in any one system as a panacea for all ills. Logically this can never be. This then is his platform. To expose the fraud and inefficiency of the many irregular practices employed in the treatment of the sick, and the numerous methods employed in the metamorphoses of those not so comely, not so spry. Though space will not permit a discussion of the specific, one feels that there is a tendency at times to be somewhat overbearing, rather haughty and dictatorial. But the merits so outweigh the seeming faults that it can be definitely stated that this is a hard task well done.

I. L. ROBBINS, M. D.

The Human Body in Pictures: By Jacob Sarnoff, M. D. Brooklyn, Physicians' and Surgeons' Book Co. 1927. pp. 120.

Of this book, one feels very much inclined to say, with the speaker on a certain occasion,

"Ladies' and gentlemen, I am here today to speak to you for no good reason whatsoever." This is supposed to be a visual text of such important subjects as anatomy, physiology and embryology. It may or may not be used in collaboration with moving pictures. The pictures with the exception of a few, not only require a most keen sight, but the imagination of a Poe to decipher some of the enigmata that these pictures demonstrate. The book is exceedingly elementary and has very little in its favor to justify it alike for the use of the high school student and the professional aspirant. To quote the author, "a work of this character is of a pioneer nature, and as such the author feels keenly its difficulties and is aware of its many shortcomings." I am sure with these remarks all those who read the book will agree.

I. L. ROBBINS, M. D.

Lectures on Internal Medicine (Delivered in the United States, 1926), by Knud Faber, M. D. With forty-three figures and charts. New York, Paul B. Hoeber, Inc. 1927. pp. 147.

The four lectures here presented are entitled:

1. The Etiology and Pathogenesis of Achylia Gastrica.
2. The Intestinal Origin of Pernicious Anemia.
3. Benign Glycosuria.
4. Historical Outline of Medical Therapy: A sketch.

In the first lecture Faber discusses the various theories of achylia gastrica, namely the theory of Einhorn that achylia is functional and occurs without atrophy; the theory of Ewald that it is due to atrophy of the mucous membrane with complete absence of glands, and that of Martius who looked upon achylia as a congenital anomaly, "a constitutional weakness of the organ which could be hereditary and a family trait like other constitutional diseases." Faber himself maintains that chronic achylia is due to an exogenous cause producing a gastritis and consequent more or less atrophy of the glands. He believes, however, "achylia occurs at such an early stage of the gastritis that there is no question of atrophy to say nothing of anadenia. That achylia, therefore, may be found in combination with anatomically preserved glands and undamaged gland cells, although there is a well-pronounced gastritis." In support of his conception he cites clinical experiences, anatomical examinations and experimental investigations.

In the second lecture on the origin of pernicious anemia, Faber supports the theory that pernicious anemia is due to an intestinal intoxication by protein toxin. He regards the achylia gastrica (anacidity) as the most frequent but not the only cause of idiopathic pernicious anemia. He does not regard the disease as an etiologic or pathogenic enterity. He does not definitely place Bothriocephalus anemia, stricture anemia, sprue, as well as anemias arising in pregnancy, sepsis and syphilis in the same class with pernicious anemia but indicates that he believes that all of them are due to a continually occurring intoxication. He considers in the case of idiopathic pernicious anemia the achylia precedes the anemia. It gives rise to deficient digestion in the stomach so that proteins are not broken down in the usual manner and abnormal products inundate the duodenum and jejunum. This in turn gives rise to an abundant abnormal bacterial flora in the uppermost portion of the intestinal canal and this in turn causes production and absorption of foreign proteins. There may be "a different receptivity on the part of different persons, a different capacity for being affected by the toxin, which perhaps does not take place until the organism has become sensitized by the toxin." Not every one, therefore, with achylia gastrica, gets pernicious anemia any more than every one harboring Bothriocephalus worms gets pernicious anemia.

The third lecture on benign glycosuria points out the importance of recognizing innocent forms of glycosuria. Not every one showing more or less constantly sugar in the urine has diabetes. The condition known as renal glycosuria has in recent years been shown to be very much more common than was thought to be the case. These patients have none of the ordinary symptoms of diabetes. Their blood sugar when taken in the fasting state is normal. When they are given glucose on a fasting stomach, the curve of the blood sugar readings made one-half hour, one hour and two hours after the glucose meal resembles the curve of the normal non-glycosuric individual. Most authorities look upon renal glycosuria as due to a habitually abnormally low renal threshold. Faber acquiesces in this view, but, contrary to the generally held opinion, he includes in his group of benign glycosurias patients whose blood sugar rises to an abnormally high point after a glucose meal, provided there is a prompt return to normal level without plateau formation. His observations are not based upon the methods of blood sugar determination in general use in this country but upon micro methods originally introduced by Ivar Bang, elaborated by Hagedorn and Normann Jensen. He calls attention to the fact that renal glycosuria may occur in several members of the same family, resembling in this respect true diabetes.

The fourth lecture represents a rapid sketch of the development of therapy from the time of Louis, one hundred years ago. Faber describes briefly the theory underlying bleeding and the revolt led by Louis against the procedure. Louis

demanded the analysis of the results of therapy in a statistical fashion, namely, the results in cases treated with and without bleeding. This method of study itself represented a revolution against the prevailing doctrine, "Diseases did not exist, only sick persons." "Two cases of disease were never identical. A classification and a calculation of probabilities based thereupon were consequently impossible." It is hard to believe that our present specific conception of disease goes back only one hundred years to the time of Sydenham, Laennec and Bretonneau. Faber then leads us to Magendie, the founder of modern experimental physiology, and his famous pupil, Claude Bernard. Then opened the great vista of the study of abnormal function and close upon it the pharmacological investigation of drugs. Later came the development of substitution therapy as in myxedema and cretinism which has led through many intermediate steps to the last brilliant result, namely, insulin. Faber also sketches the rise of specific therapy based upon the experimental investigations of Pasteur and the triumphal rise of serum therapy beginning with Behring and Roux. Finally came the development of chemotherapy in which field the greatest merit is due Ehrlich.

This lengthy review of a small book is merited. The short time taken for its perusal is well spent and one takes from it many stimulating suggestions both for thought and for further reading.

I. I. LEMANN, M. D.

Heart and Athletics: By Felix Deutsch, M. D., and Emil Kauf, M. D. Translation by Louis M. Warfield, A. B., M. D. St. Louis, C. V. Mosby Co. 1927. pp. 187.

The authors have made close observations of a large amount of material accumulated at the Heart Station, Vienna, using as a basis for their studies orthodiagraphy and teleoroentgenography.

Chapters 1 and 2 include a resumé of former works on the subject and a criticism of methods employed. Chapter 4 comprises chiefly statistical data on competitive athletics, that is, swimming, soccer, rowing, wrestling, boxing, heavy, athletics, mountain climbing, skiing, bicycle riding, and fencing. In the next chapter is drawn a comparison of the heart changes in the various sports. Clinical observations of the heart in the various sports are recorded in chapter 6. Following this are two interesting subjects: "Constitutional Disposition to Dilatation of the Athlete's Heart" and "Course of the Dilatation of the Athletic Heart and Case Records." The last chapter is a summary with conclusions. Whenever possible the effect of athletics upon the female heart has been included in the treatise. The book is replete with many interesting facts concerning the effect of physical activities on the heart. It should be enthusiastically received by the profession at large.

RUSSELL C. PIGFORD, M. D.

Standard Measures of the Division of Laboratories and Research of the New York State Department of Health: By Augustus B. Wadsworth, M. D. Baltimore, Williams & Co. 1927. pp. 704.

Dr. Wadsworth goes into minute details regarding the methods used in the Division of Laboratories and Research of the New York State Department of Health.

The methods described by the author are of the utmost value to the man doing laboratory and public health work, particularly. This book could possibly be made of as much value to the physician doing state and general practice by adding a chapter dealing with the preparation of specimens for transportation to the laboratories.

MONROE WOLF, M. D.

PUBLICATIONS RECEIVED.

D. Appleton and Company, New York, London: "Appendicitis," by Hubert Ashley Royster, A. B., M. D. "American Medicine and the People's Health," by Harry H. Moore, Public Health Economist, U. S. Public Health Service.

Williams & Wilkins Company, Baltimore: "Modern Aspects of the Diagnosis, Classification and Treatment of Tuberculosis," by J. Arthur Myers, M. D. "Diseases of the Skin," by Robert W. MacKenna, M. A., M. D., B. Ch.

MacMillan Company, New York: "Cultivating the Child's Appetite," by Charles Anderson Aldrich, M. D. "Plastic Surgery of the Orbit," by J. Eastman Sheehan, M. D., F. A. C. S.

Oxford University Press: "Tonic Hardening of the Colon," by T. Stacey Wilson, M. D., B. Sc., F. R. C. P.

W. B. Saunders Company, Philadelphia and London: "Diagnosis and Treatment of the Stomach," by Martin E. Rehfuss, M. D.

F. A. Davis Company, Philadelphia: "Ophthalmoscopy, Retinoscopy and Refraction," by W. A. Fisher, M. D., F. A. C. S. "An Introductory Course in Ophthalmic Optics," by Alfred Cowan, M. D. "The Principles of Sanitation,' by C. H. Kibbey.

Ophthalmic Publishing Company, Chicago: "The Ophthalmic Year Book," Volume XXIII, edited by William H. Crisp.